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# **Understanding the Mental Health and Well-being of Early Adolescents in Foster Care**

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PhD in Psychology

University of Sussex

Thesis submitted by Helen Margaret Drew to the University of Sussex for  
the qualification of Doctor of Philosophy in Psychology

November 2017

### **Declaration**

This thesis conforms to a 'papers style' format. The empirical work is reported in three papers, written in a format that is suitable for publication in peer-reviewed journals. The first chapter reviews the current literature pertinent to this field of research and gives brief summaries describing the work contained in the following three paper-style chapters. The final chapter synthesises the work from all three papers, drawing conclusions and giving directions for future research.

Paper 1 has been revised and resubmitted to the *European Journal of Psychology of Education* as:

Drew, H., & Banerjee, R. (2017) Supporting the education and wellbeing of looked-after children: What is the role of the Virtual School?

The other two papers will be submitted to journals following submission of this thesis and will also be co-authored with my supervisor Robin Banerjee. The author contributions for all three papers are as follows:

Helen Drew was responsible for participant recruitment, development of the research materials and research questions, ethical applications, data analyses and writing the papers. Robin Banerjee has provided advice, guidance and feedback on study design, material development, model development, statistical analyses and drafts of each paper.

**Statement**

I hereby declare that this thesis has not been, and will not be, submitted in whole or in part to another University for the award of any other degree.

Helen Drew

November 2017

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UNIVERSITY OF SUSSEX

HELEN MARGARET DREW

PhD IN PSYCHOLOGY

UNDERSTANDING THE MENTAL HEALTH AND WELL-BEING OF EARLY  
ADOLESCENTS IN FOSTER CARE

SUMMARY

Children in foster care are at high risk of experiencing mental health problems and tackling this issue is a key priority. Previous research suggests that the transition from primary to secondary school can be particularly challenging, as well-being declines and mental health problems increase in early adolescence.

However, there is insufficient understanding of variations in the well-being and mental health of this group of children, and particularly the role played by their social interactions, relationships, and psychological attributes. This thesis includes three papers reporting on a programme of empirical research conducted to address this gap in knowledge and better understand the risk and protective factors, particularly in the peer context, for changes in mental health and well-being.

The first paper focuses on current provision and reports the findings from a national survey of Virtual Schools that support the education of children in care. The second paper presents the findings of a longitudinal study with children not in care (aged 10-13 years), to test our conceptual model in the general population. This demonstrated that peer factors predict changes in mental health problems and well-



being over and above parental and other adult support. The third paper presents findings from a longitudinal study of children in foster care (aged 10-14 years), to test these key pathways in our focus population. This revealed a pattern of differentiated links from peer and adult support to mental health and well-being, and identified self-efficacy as a key longitudinal predictor of change, especially when moderated by peer relationship quality.

The thesis demonstrates the importance of supportive relationships with both adults and peers for the mental health and well-being of children in care. This has important implications for future work where social activities and relationship quality with peers should be considered as potential protective factors, especially in school settings.

## **Introduction**

## **Introduction**

Children and adolescents who enter the care system are some of the most vulnerable young people in our society, and are at significantly higher risk for a range of poorer long-term outcomes, including lower educational attainment and a far higher incidence of mental health problems. The pre-care environment, where many have experienced abuse and neglect, or other traumatic and disruptive experiences, play a significant role. However, when care experiences are positive and stable, outcomes for children in care can be improved, and many display considerable resilience despite experiencing severe risk.

The aim of this thesis is to gain a better understanding of some of the factors that may support more resilient outcomes - here conceptualised as higher positive well-being and lower mental health problems. Informed by Ecological Systems Theory (Bronfenbrenner, 1979, 2005; Bronfenbrenner & Morris, 2006), mental health is situated across the early adolescent years within the complex web of relationships and social activities with adults and peers, with the aim of understanding how these may affect self-concept – especially self-esteem and self-efficacy - and in turn mental health outcomes. Specifically, all three empirical papers focus on the transition years from primary to secondary school which are a challenging time for all children and especially children looked-after (CLA). They consider the support currently available, as well as the importance of peer relationships within and outside the school setting, over and above adult support.

This introduction gives a broad overview of existing research regarding the mental health of children in care and reviews the literature that informs current understanding of the likely relationships between the main variables in the second and

third papers. The main aims are: firstly, to give an overview of the profile of children looked-after in England and the prevalence of mental health problems in looked-after and maltreated children, while also discussing the importance of considering positive well-being; secondly, to consider how pre-care experiences including parenting and attachment, peer relationships and self-concept are related to mental health; thirdly to situate mental health within a resilience framework informed by Ecological Systems Theory, considering the importance of relationships within different microsystems including the importance of the school context; and finally, to summarise the aims and research questions, and methodology of the empirical work in this thesis.

### **Profile of Children Looked-after in England**

Children looked after in the care system are recognised as being some of the most disadvantaged and vulnerable young people in our communities today (Gypen, Vanderfaeillie, De Maeyer, Belenger, & Van Holen, 2017; Tarren-Sweeney, 2008). Although the number of children in care is small, currently equating to 60 per 10,000 young people nationally (Department for Education (DfE), 2016a), many have experienced severe disadvantage, disruption, abuse and/or neglect prior to entry into care, and can correspondingly display a profile of significant maladjustment across many aspects of development (Bazalgette, Rahilly, & Trevelyan, 2015; Berridge, 2012; Fisher, 2015; Gypen, et al 2017) that may require focused support and intervention (Department of Health (DoH) & NHS England, 2015; DfE & DoH, 2015; NICE/SCIE 2010/2013).

The term ‘looked after’ refers to children who are provided with substitute care by the local authority for at least 24 consecutive hours, either voluntarily in agreement with parents or as a result of a care or placement order (Children Act, 1989). Numbers continue to rise, with 70,440 children being looked-after in England as of 31<sup>st</sup> March

2016, an increase of 5% in the last four years and the highest number since figures have been collated. The population is extremely transient with 32,050 children entering care and 31,710 children leaving care for the year to end of March 2016. The age profile of children in care also continues to change; numbers below the age of ten have decreased, while those aged 10-to-18 years continue to increase and currently represent 62% of those in care (DfE, 2016a). This research project focuses on those children who are in foster care, currently the placement option for three quarters of children in England, in mainstream education and in late childhood and early adolescence (aged 10 to 15 years), which is by far the largest age group of CLA (DfE, 2016a).

### **Introduction to Mental Health of Looked-after Children – Review of the Evidence**

**Mental health problems.** Adolescence is a crucial developmental period characterised by physical, cognitive, psycho-social and emotional transformations (Hines, 2007), and is a key time for the development of identity, self-esteem and resilience (Coleman, 2011). Whereas many of the physical and cognitive changes of adolescence are biologically determined, psychological, emotional and social development depends in large part on the sociocultural and environmental influences of our early lives (Christie & Viner, 2005), with adolescence being highlighted as a key risk period for the onset of mental health problems that often continue into adulthood (Kim-Cohen, Caspi, Moffitt, Harrington, Milne & Poulton, 2003). In fact, around half of people with long term mental health problems experience onset and symptoms by the mid-teens (Murphy & Fonagy, 2012; Kessler et al., 2007).

International studies have shown that young people in local authority care are at far greater risk of mental health problems than children growing up in their own families; the frequency and severity of their difficulties more closely resembles those of

clinic referred children than the general population (Janssens & Deboutte, 2010; Tarren-Sweeney & Hazell, 2006). The prevalence of mental health problems among the population of CLA in the UK is also far higher than in the general population, with 45% identified as having a mental health disorder, rising to 72% of those in residential care. Among 11 to 15-year-olds the rates were 55% for boys and 43% for girls, compared to a prevalence rate of around 10% in the general population of 5 to 15-year olds (12% aged 11-16 years and 8% aged between 5 and 10) (Ford, Goodman & Meltzer, 2003; Green, McGinnity, Meltzer, Ford & Goodman, 2005; Meltzer, Corbin, Gatward, Goodman, & Ford, 2003). In these surveys, clinically significant conduct disorders were the most common disorder among CLA, but rates of ADHD, anxiety, depression, neurodevelopmental disorders and learning difficulties were also all significantly higher than children in birth families. Even when compared to children from the most deprived socio-economic groups, prevalence was still just over three times higher (Ford, Vostanis, Meltzer & Goodman, 2007). The amount of time that has been allowed to elapse by the government since these surveys were last conducted has been criticised (DfE & DoH, 2015; House of Commons Education Committee 2016) and more up-to-date figures are likely to identify further increases in mental health problems if prevalence in CLA reflects trends across all children and young people in the UK and other industrialised countries over recent years (Bruckauf, 2017; Pitchforth, Fahy, Ford, Wolpert, Viner & Hargreaves, 2017).

Even so, there is still under-identification of mental health problems and a shortage of therapeutic and early intervention services for this vulnerable group of children (CAMHS Review, 2008; DfE & DoH, 2015; House of Commons Health Committee 2014). Some researchers argue that DSM-IV classifications are failing to capture the range and complexity of psychopathology in the CLA population (e.g.

DeJong, 2010; Tarren-Sweeney, 2006, 2008), while others have highlighted a tendency among referrers to diagnose attachment disorders or attachment problems before considering the evidence for more common diagnoses such as ADHD, conduct disorder, PTSD or adjustment disorders, as well as neurodevelopmental problems (Woolgar & Baldock, 2014). Misdiagnosis is damaging and may limit CLA's timely access to appropriate evidence-based treatment (Woolgar & Baldock, 2014; Woolgar & Scott, 2013; Chaffin et al., 2006). Early identification of mental health problems and timely treatment are both important since ongoing mental health problems are strongly associated with later problems such as juvenile crime, self-harm, development of eating disorders and substance abuse (NICE/SCIE, 2010/2013) and poorer educational and employment outcomes (Goodman, Joyce & Smith, 2011).

Timely intervention in mental health is also vital due to the complex interplay between the mental health of CLA and the stability and quality of the care they are likely to experience. On the one hand, higher levels of emotional and behavioural difficulties can contribute to placement breakdowns and therefore greater placement instability (Bazelgette et al., 2015; Rock, Michelson, Thomson & Day, 2013; Selwyn, Frazer & Quinton, 2006). This in turn is related to increased problem behaviour, further placement breakdowns (Strijker, Knorth & Knot-Dickscheit, 2008) and increased mental health problems in adulthood (Anctil, McCubbin, O'Brien, & Pecora, 2007; Pecora et al., 2005). Even in pre-schoolers sudden placement moves, multiple placement moves and poor relationship quality with carers are all risk factors for higher mental health disorders (Hillen & Gafson, 2015). On the other hand, there is a great deal of evidence that high quality, stable 'ordinary care' can have a very positive association with mental health (Luke, Sinclair, Woolgar & Sebba, 2014). Stable care can contribute positively to children's lives (Fernandez, 2008; Schofield, Beek & Ward, 2012; Rahilly

& Hendry, 2014), with evidence that outcomes, including mental health, are better for children who remain in care compared to those who return home (Luke et al., 2014). Factors such as placement in stable, family-based settings, the age of foster carers, their experience, their parenting skills and the opportunities they provide for children to develop intellectually are among the factors that contribute towards stability and better outcomes (Rock et al., 2013; Shpiegel & Ocasio, 2015), as does placement with siblings which in some circumstances can also contribute to improved mental health (Meakings, Sebba & Luke, 2017).

**Positive mental health and well-being.** In recent years there has been a growing interest in understanding, measuring and promoting positive aspects of mental health and well-being for children and young people (Children's Society, 2016; Dex & Hollingworth, 2012; New Economics Foundation (NEF), 2004; Office for National Statistics (ONS), 2009). While there is no single agreed definition of well-being, it is often seen as being comprised of two distinct dimensions: *emotional* wellbeing, such as feeling happy, confident, and the absence of anxiety and depression, and *psychological* or *eudaimonic* wellbeing encompassing a sense of autonomy, problem-solving, and connectedness. Some definitions of well-being also include a third dimension of *social* wellbeing that takes account of the importance of good relationships, social acceptance, contribution and integration to wellbeing (Keyes, 2002; NICE, 2013), while others incorporate measures of life satisfaction and emotional well-being within the term subjective well-being (SWB), and define 'flourishing' as high subjective well-being and high psychological well-being in combination (The Children's Society, 2016).

It is important to emphasise that while the terms well-being and mental health problems are often used interchangeably, the 'two continua' model holds that they are distinct and that an individual may have a mental health problem such as anxiety but



still experience high levels of positive wellbeing and vice versa (e.g. Keyes, 2002, 2010). This distinction is supported by general population studies across the life span (Weich et al., 2011; Westerhof & Keyes, 2010) and with looked-after children (Lee, Simkiss & Keegan, 2015). However, the two are not unrelated, with low earlier well-being predicting higher mental health problems (Children's Society, 2016).

Understanding and supporting factors that promote well-being therefore has the potential to be protective against mental health problems.

Although the UK has previously come bottom on measures of objective well-being such as poverty, health and education compared to other richer nations (e.g. UNICEF, 2007), and continues to rank very poorly on education (UNICEF, 2013) it is subjective measures which highlight that children and adolescents' well-being is most significantly affected by the everyday contexts of their lives. Factors such as the quality of interpersonal relationships, access to facilities, social activities, supportive local adults and feeling safe explain a large degree of variance in subjective measures of well-being (Children's Society, 2016; Fattore, Mason & Watson, 2009; Rees, Bradshaw, Goswami & Keung, 2010). Rather than a stable construct within the individual, this supports views of good well-being as a place of balance when a person has enough resources to meet the demands that they face (Dodge, Daly, Huyton, & Sanders, 2012) or a dynamic process borne out of the interactions between circumstances, activities and psychological resources such as self-esteem (NEF, 2011, p.3).

### **Explanatory Frameworks for Understanding the Mental Health and Well-being of Children in Care**

There are no simple explanations for the mental health and well-being of children who enter the care system. Like all groups of children and young people, they are a

heterogeneous population whose psychological adjustment is affected by multiple factors including pre-care experiences, individual characteristics including genetic difference, and environmental resources such as relationships. In fact, the idea of differential susceptibility emphasises how one child may experience harmful effects from their experiences whereas another may not; those who show more vulnerability to toxic environments, but also higher responsiveness to positive ones, being termed ‘orchids’, compared to ‘dandelions’ who may thrive to a similar level in most environments (Boyce & Ellis, 2005; Woolgar, 2013).

The explanatory frameworks discussed are therefore viewed as inter-related, with factors related to the pre-care environment, relationships with others and the individual resources of the child likely to be interacting in complex ways. Recent work on positive well-being in CLA lends support to this complex picture. While similar domains have been identified as important to the subjective well-being of CLA, such as positive relationships with friends and family, traditional measures do not fully capture the range of indicators important to this group of children (Holder, Beecham & Knapp, 2011; Selwyn & Wood, 2015; Wood & Selwyn, 2017). CLA identify trust in relationships as crucially important to their well-being, including with others beyond traditional family contexts such as social workers, other trusted adults, and mentors (Duke, Farruggia, & Germon 2017; Gypen et al 2017; Strolin-Goltzman, Woodhouse, Suter & Werrbach, 2016; Wood & Selwyn, 2017). They also value being supported to understand often complex life histories, being listened to and given choices around care arrangements and family contact (Wood & Selwyn, 2017).

**The pre-care environment: Maltreatment, parenting and attachment.** The pre-care environment is vital to consider in order to understand the mental health of children in care, with growing evidence that early life stress, including abuse and neglect,

contributes to changes in children's functional and structural neurobiological systems that in the long term may cause psychopathology (McCrory, De Brito & Viding, 2010; Loman & Gunnar, 2010; Hart & Rubia, 2012; Woolgar, 2013). The prevalence of poorer mental health even among very young children entering care attests to the importance of pre-care experiences, with 1 in 5 of those under five showing signs of emotional and behavioural problems, and 72% of five to fifteen-year olds having an emotional or behavioural issue significant enough to be of concern to carers at entry into care (Sempik, Ward, & Darker, 2008). This has been supported by more recent studies that have also found high prevalence of both mental health problems and developmental disorders among pre-schoolers entering care (Hillen, Gafson, Drage & Conlan, 2012; Hillen & Gafson, 2014; Vasileva & Petermann, 2016).

Children who enter the care system have often grown up in environments that are unpredictable, are impoverished and fail to provide the experiences necessary to support typical development (Minnis, Everett, Pelosi, Dunn & Knapp, 2006; Chambers, Saunders, New, Williams, & Stachurska, 2010). Even children whose primary reason for entering care is not abuse and neglect are likely to have experienced significant instability, since other common reasons for entering care include family stress, family dysfunction, absent parenting and parental illness or disability (DfE, 2016; Table A1). In fact, children who enter care have often been exposed to multiple risk factors, with higher incidence of psychiatric disorders in biological parents and prenatal risk factors such as exposure to drugs, nicotine and alcohol (Oswald, Heil, & Goldbeck, 2010), social isolation in maltreating families (Gracia & Musitu, 2003), maternal drug and alcohol abuse (Jones, 2004) and parental criminal involvement (Bernstein, 2007; Seymour & Hairston, 2017).

A clear relationship between child maltreatment and later unfavourable mental health outcomes is well-documented (e.g., Gilbert, Widom, Browne, Fergusson, Webb & Janson, 2009; Jaffee, 2017), with experiencing more than one type of maltreatment appearing to confer greater vulnerability (Mills, Scott, Alati, O’Callaghan, Najman, & Strathearn, 2013). Although there is evidence that the type of risk for mental health problems varies in relation to maltreatment subtypes (e.g. Manly, Kim, Rogosch & Cicchetti, 2001; Mills et al., 2013), it is less consistent than the evidence that chronicity of maltreatment leads to poorer outcomes, especially where maltreatment occurs over more than one key period of psychosocial development (Ethier, Lemelin, & Lacharite, 2004; English, , Graham, Litrownik, Everson & Bangdiwala, 2005; Jaffee & Maikovich-Fong, 2011; Thornberry, Ireland, & Smith, 2001). Earlier onset may also present greater risk, with children maltreated during early childhood showing rates of depression and PTSD symptoms twice as high as those exposed during later developmental stages (Dunn, Nishimi, Powers & Bradley, 2016), as well as poorer neurocognitive functioning (Cowell, Cicchetti, Rogosch, & Toth, 2015). However, the findings that there may be differential associations between age at onset and type of mental health problem experienced should not be overlooked; earlier age at onset has been found to predict higher levels of internalising outcomes such as anxiety and depression, while later onset predicted more behavioural problems in two important studies (Kaplow & Widon, 2007; Thornberry, Henry, Ireland, & Smith, 2010).

Attachment theory (Bowlby 1982, 1988) has provided a key framework for understanding the psychosocial effects of early maltreatment and impoverished parenting on later developmental outcomes, with a detailed literature showing that young people who come into the care system are likely to have experienced poor or broken attachments (Howe & Fearnley, 2003; Aldgate & Jones, 2006) and may show

attachment disturbances as a result (Minnis et al., 2006). According to attachment theory, infants develop a pattern of attachment behaviours such as smiling, contact-seeking and crying to maintain safe proximity with a primary caregiver, behaviours which become heightened during periods of threat or loss. Based on how the caregiver responds to these signals, infants develop internal working models of the social world that affect subsequent affectional bonds with others, guiding the child's sense of self, expectations of how others will view them, and others' emotional availability (Bowlby, 1982). When caregivers are responsive, infants are likely to develop a secure attachment relationship, but when this is not the case they may be at risk for developing insecure attachment relationships characterised by distorted internal working models of self and others that impact on behavioural, emotional and social development (Ainsworth, Blehar, Waters & Wall, 1978). Where parental behaviour has been frightening, for example in contexts of maltreatment, disorganised attachment may also be evident, with children showing both the desire to still seek comfort from the caregiver while also appearing frightened and wishing to avoid them (Hesse & Main, 2000).

A series of meta-analyses have identified maltreatment as being a precursor of insecure, and especially disorganized patterns of attachment (Cyr, Euser, Bakermans-Kranenburg, & Van IJzendoorn, 2010), with a recent meta-analysis of attachment in abused and neglected pre-school children in foster care finding prevalence rates of approximately 40% for insecure attachment and 22% for disorganised attachment (Vasileva & Petermann, 2016). Attachment insecurity and disorganisation have established associations with later mental health problems including externalising behaviours (van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999; Fearon, Bakermans-Kranenburg, Van IJzendoorn, Lapsley, & Roisman, 2010), and internalising behaviours (Groh, Roisman, Van IJzendoorn, Bakermans-Kranenburg & Fearon, 2012;

Madigan, Atkinson, Laurin & Benoit, 2012), although the patterns of associations for different attachment categories are complex and stronger for externalising problems.

There are several possible mechanisms that help to explain how attachment relationships with parents affect socio-emotional and mental health outcomes, largely related to differences in the qualities of parental-child interactions or atypical interactions in maltreating families. The ability of a caregiver to read her or his child's behavioural and emotional signals accurately and to respond in an attuned and appropriate way, often referred to as parental sensitivity, is one important quality (Ainsworth et al 1978). It is a key determinant of caregiver-child attachment patterns (Bigelow et al., 2010), and less evident in the interactions of mothers of maltreated children (Cicchetti, Rogosch & Toth, 2006). This may reflect emotional difficulties in the parents themselves, since parents who maltreat or neglect their children appear to be less accurate at recognising emotions (Wagner et al., 2015) and display less prototypical emotions (Shackman et al., 2010), alongside displaying less emotional involvement and responsivity when interacting with their children (Edwards, Shipman & Brown, 2005), and less likelihood of validating their children's emotions (Shipman et al., 2007).

A caregiver's tendency towards 'mind-mindedness' has also been identified as an important mechanism (Meins, 1997). This is the extent to which caregivers comment appropriately on infants' thoughts and feelings (Meins et al., 2012), interpret infants' early preverbal communications in meaningful ways (Meins, 1998) or describe older children in terms of their mental characteristics (Meins, Fernyhough, Russell, & Clark-Carter, 1998). Responding in a mind-minded way is increasingly seen as a quality of interpersonal relationships, particularly intimate ones, rather than a trait-like quality (Fishburn et al., 2017; Meins, Fernyhough & Harris-Waller, 2014) and is also related to attachment security (Laranjo, Bernier, & Meins, 2008; Meins et al., 2001, 2012).

Parents who exhibit more mind-minded inter-personal qualities, report lower levels of stress, perhaps because they are better able to explain their child's behaviour in terms of their thoughts and feelings, therefore seeing them as less challenging (McMahon & Meins, 2012). This is important since parental anger and hyper-reactivity and parental stress are associated with maltreatment (Stith et al., 2009) and 'mind-mindedness' has been found to be lower in the relationships of both foster parents and parents involved with child protection services with their children (Fishburn et al., 2017).

### **Difficulties with Peer Relationships**

Relationships with peers are important throughout children's lives, but the period of early adolescence especially is characterised by the growing importance of peer relationships (Hartup & Stevens, 1997), a need to belong within the peer group and increased emotional and social support provided by peers (Buhrmester, 1990; Brechwald & Prinsetein, 2011; Brown & Larson, 2009; Oberle, Schonert-Reichl, & Zumbo, 2011). In many ways the development and maintenance of successful peer relationships, building on earlier attachment relationships, is one of the most important tasks of childhood and adolescence (Bohlin, Hagekull, & Rydell, 2000). As such the quality of CLA's peer relationships is likely to be a key antecedent of variations in their mental health and well-being beyond the context of adult relationships (Price & Brew, 1998). Evidence of the importance of peers to well-being comes from two recent studies. A large Welsh cohort study of children in foster care between the ages of 11 and 16, comparing their subjective well-being with children from private households, found that the association between foster care and lower well-being became non-significant once accounting for relationships with others including peers (Long et al., 2017), while recent Australian research into factors influencing well-being in CLA found that friendship dynamics and qualities including trust in friendships were

emphasised over just doing things with friends, a subtly different emphasis to non-CLA (Australian Child Well-being project, (<http://www.australianchildwellbeing.com.au>) reported in Selwyn & Wood, 2015, p.41). However, although children in care report that relationships with peers are important and provide support and intimacy, they also attest to the fact that they can be challenging to sustain within the care system (Anderton, 2009; Emond, 2014; Ridge & Millar, 2000). This may have lifelong consequences, since children who have positive relationships with peers tend to continue to have positive relationships in early adulthood (Lansford, Yu, Pettit, Bates & Dodge, 2014).

Furthermore, the capacity to establish positive relationships and friendships with peers is impacted by early family environments that have been characterised by abuse, neglect or harsh parenting practices. A clear relationship has been found between various dimensions of maltreatment, including chronicity, and the quality of childhood peer relationships and self-esteem (Bolger, Patterson & Kupersmidt, 1998). Maltreated children have been found to be significantly more disliked, more physically and verbally aggressive, more withdrawn and less prosocial than their peers, which also affects peer status (Anthonysamy & Zimmer-Gembeck, 2007). Social competence is also affected by maltreatment (Miller-Graff, Howell, Martinez-Torteya, & Grein, 2017), as is interpersonal problem solving (Haskett, 1990). While many aspects of friendship quality are not significantly different between maltreated and non-maltreated children, there are some subtle differences in terms of more atypical friendship choices (Salzinger, Feldman, Hammer & Rosario, 1993), higher reported conflict and lower caring (Howe & Parke, 2001), and less overall intimacy, with more negative affect in boys and less positive affect in girls during dyadic conversations and discussion (Parker & Herrera, 1996).



Attachment security may explain some of these difficulties with peer relationships. A recent meta-analytic review has found that early attachment security is associated with children's later interactions with peers, measured by social competence and externalising difficulties manifesting in the peer context. Although the authors stress it is too simplistic to say that attachment determines the quality of peer interactions and aggression, it certainly plays a part (Groh, Fearon, van Ijzendoorn, Bakermans-Kranenburg & Roisman, 2017). Secure attachment has positive associations with successful peer relationships especially in mid-childhood and adolescence (Schneider, Atkinson & Tardif, 2001), while insecure attachment confers greater vulnerability for higher levels of physical and relational aggression in peer interactions (Bosmans, Braet, Van Leeuwen & Beyers, 2006; Michiels, Grietens, Onghena & Kuppens, 2008), as well as more negative emotional interactions, withdrawal, and lower self-confidence (Coleman, 2003). One explanation is that those children whose attachment to parents is insecure may use relationally aggressive strategies to try and increase relationship security and maintain peer group status (Soenens, Vansteenkiste, Goossens, Duriez & Niemiec, 2008), while for children who are shy and less sociable, insecure attachment may exacerbate peer difficulties such as victimisation and rejection (Chen & Santo, 2016).

The extent to which parents talk about and model appropriate emotional responses can explain many of the individual differences seen in young children's emotion recognition, emotional understanding and prosocial behaviour (Brownell, Svetlova, Anderson, Nichols, & Drummond, 2013). Parental mind-mindedness, for example, is related to children's emotional understanding along with their empathic understanding of others (Centifanti, Meins & Fernyhough, 2016). It is therefore unsurprising that when children have experienced maltreatment they have more

difficulty recognising and understanding emotions (Luke & Banerjee, 2013) and regulating their own emotions (Kim & Cicchetti, 2010; Alink, Cicchetti, Kim & Rogosch, 2009). Several studies have shown that children who have difficulties with emotion recognition are more likely to experience social rejection (Miller, Gouley, Seifer, Zakriski, Eguia & Vergnani, 2005) and that emotion dysregulation may hamper social and emotional development (e.g., Alink et al., 2009). Moreover, an inability to regulate emotions increases vulnerability for a range of psychiatric symptoms and disorders (Bradley et al., 2011; Maughan & Cicchetti, 2002; Teisl & Cicchetti 2008). Both internalising and externalising symptoms may then increase as a result of the impact that emotional dysregulation has on peer relationships, with a particularly vicious cycle evident with externalising symptoms (Kim et al., 2010).

The strong links between harsh parenting and children's own subsequent relational aggression with peers (Kawabata, Alink, Tseng, van Ijzendoorn & Crick, 2011; Vaillancourt, Miller, Fagbemi, Côté & Tremblay, 2007), and externalising behaviours across developmental periods (Hughes & Ensor, 2006; Lansford, Criss, Laird & Shaw, 2011; McKee et al., 2007) are well-established. Social information processing studies have also shown that some children, particularly those who have experienced physical abuse or harsh parenting, exhibit a heightened ability to identify fearful faces (Masten et al., 2008) and hypervigilance to threatening stimuli, with a response bias for selecting angry faces, selective attention to anger cues and hyper-responsivity and sensitivity to anger (Curtis & Cicchetti, 2011; Gibb, Schofield & Coles, 2009; Gulley, Oppenheimer & Hankin, 2014; Pollak, Cicchetti, Hornung & Reed, 2000; Pollak & Tolley-Schell, 2003). These patterns of information processing have been found to mediate the relationship between maltreatment and both aggression and behaviour problems (Dodge, Pettit, Bates & Valente, 1995; Shackman & Pollak,

2014) as well as child reported anxiety (Shackman, Shackman & Pollak, 2007).

Intervening early with behaviour problems and hyperactivity is crucial since those children who display problematic behaviours at entry to primary school go on to show elevated risk for social isolation in early secondary school, with social isolation and mental health problems also co-occurring at both ages (Matthews et al., 2015).

### **The Role of Self-Concept**

The term self-concept can incorporate many dimensions (Shavelson & Bolus, 1982), but self-esteem and self-efficacy have especially been emphasised as aspects of self-concept that can contribute to more resilient outcomes for maltreated children and CLA in the context of supportive relationships (Afifi & MacMillan, 2011; Collishaw, Pickles, Messer, Rutter, Shearer & Maughan, 2007; Haskett, Nears, Sabourin Ward & McPherson, 2006; Schofield & Beek, 2005; Taussig, 2002). They are also highlighted as important in policy documents focused on promoting the health and well-being of young people, including those in care (e.g. DCSF & DoH, 2009; NICE/SCIE 2010/2013, Public Health England 2015). It is therefore important to include them in studies focused on psychological adjustment and resilient outcomes in early adolescents, including CLA.

Self-esteem has been conceptualised as an individuals' global self-evaluation of their worth as a person (Rosenberg, 1965; Harter, 1999). Early adolescence is a time when it can be less stable (Steinberg, 2008; Trzesniewski, Donnellan & Robins, 2003) as adolescents scrutinise who they are, who they want to be and what they want to achieve (Steinberg, 2005). Theoretical perspectives emphasise the importance of social relationships for the development of self-esteem, which may go some way to explaining why it is negatively impacted by maltreatment (Bolger et al., 1998; Egeland, Sroufe &

Erickson, 1983; Barbarosa Pacheco, Irigaray, Werlang, Tiellet Nunes & de Lima Argimon, 2014; Shen, 2009). The sociometer theory of self-esteem (Leary & Baumeister, 2000) conceptualises self-esteem as arising from the social acceptance or rejection by those who are important, with changes to self-esteem being viewed as a monitor for acceptance and rejection that support adjustments in behaviour to facilitate group approval and inclusion. In the opposite direction, self-broadcasting perspectives emphasise that differing levels of self-esteem affect the social cues that are given to others, which in turn affect social responses and liking (Srivastava & Beer, 2005). Empirical findings support this identified importance of social relationships, with much evidence for associations between self-esteem and peer acceptance (Birkeland, Breivik & Wold, 2014), high quality friendship (Hiatt, Laursen, Mooney & Rubin, 2015), secure parental attachment (Laible, Carlo & Roesch, 2004), supportive relationships with parents and peers (Smokowski, Evans, Cotter & Guo, 2014) and foster carers (Luke & Coyne, 2008). Peer relationships may be especially important for adolescents in foster care, where they have been found to impact self-esteem more strongly than relationships with either biological mothers or foster parents (Farineau, Stevenson, Wojciak & McWey, 2013). Also, self-esteem has been identified as a mediator between peer relationships and mental health problems, including both internalising and externalising behaviours (Thompson, Wojciak & Cooley, 2016), and between maltreatment and behavioural and emotional problems (Arslan, 2016). This association between self-esteem and mental health has been found in several studies (e.g. Legault, Anawati & Flynn, 2006; Mann, Hosman, Schaalma & de Vries, 2004; Kim, 2003), and is supported by longitudinal research. These longitudinal studies provide most support for the fact that low self-esteem contributes to depression rather than depression eroding

self-esteem (Gruenenfelder-Steiger, Harris & Fend, 2016; Sowislo & Orth, 2013; Steiger, Allemand, Robins & Fend, 2014).

Self-efficacy, defined as an individual's belief in their capacity to control events that impact their lives, influence outcomes and manage problems, is also strongly influenced not only by personal factors, but also social and contextual variables (Bandura, 1997). For example, teachers, peers and parents make distinct contributions to adolescents' academic self-efficacy beliefs (Jiang, Song, Lee & Bong, 2014) and the importance of peers to more generalised self-efficacy can be especially salient in adolescence when they provide a key context within which individuals judge their own abilities (Bandura, 1997; Schunk & Meece, 2006). Beyond the broader peer context, the finding that close friendships high in positive qualities, such as companionship, are most strongly associated with happiness, life satisfaction and quality of life (Demir, Özdemir & Weitekamp, 2007; Tomé, Gaspar, Matos, Camacho & Simões, 2014) has led some researchers to argue that part of the explanation for this association is that they provide the most important context for the satisfaction of basic psychological needs such as autonomy and competence (e.g. Tomé et al., 2014). If this is the case, then positive quality of best friendship could be expected to be an important predictor of self-efficacy which is closely related to these psychological elements.

Self-efficacy is also both theoretically and empirically related to thoughts, feelings and motivation, with low self-efficacy being related to stress, depression and mental health problems (Bandura, 1997; Kim, 2003) and higher self-efficacy related to positive thinking and happiness (Caprara, Steca, Gerbino, Paciello & Vecchio, 2006) and eudaimonic aspects of well-being (e.g Selwyn & Wood, 2015). In studies with non-looked-after adolescents and young people, self-efficacy has been highlighted as a powerful predictor of mental health (Parto & Besharat, 2011), and a mediator between

loneliness and subjective well-being (Tu & Zhang, 2014) and between social support and psychosocial adjustment (Vieno, Santinello, Pastore & Perkins, 2007). Self-efficacy has also been found to mediate the association between maltreatment and health problems among older adults (Sachs-Ericsson, Medley, Kendall-Tackett & Taylor, 2011), while a self-determination enhancement intervention, focused on supporting youth in foster care with goal setting, planning, problem-solving and decision making - all of which are similar components to those that underpin self-efficacy – reduced depression and anxiety (Geenen et al., 2013). Furthermore, self-efficacy is likely to be linked to the educational progress of CLA, since a sense of ‘agency’, or how much control young people in care felt they had exerted over their education, came out as an important theme in interviews with young people in care who had made good educational progress (Sebba et al., 2015).

Rather than grouping different aspects of self-concept together, it is likely to be more fruitful to consider their distinct contributions to psychological adjustment. Although only one cross-sectional study with adolescents has looked at parent and peer relationship variables as predictors of both self-esteem and self-efficacy, this found that peer variables – for example, comparison with peers – was especially important for self-efficacy, but that parental variables such as parental warmth and trust, were especially important for self-esteem (Macek & Jezek, 2007). Beyond self-efficacy and self-esteem, other motivational aspects of self-concept may have associations with psychological adjustment. These include social motivation, such as the tendency to feel a prosocial empathic concern for others, and academic motivation, including sense of achievement at school and perceptions of future usefulness of learning. These are both acknowledged as important aspects in measures of resilience, such as the Student Resilience Survey (Lereya et al., 2016; Sun & Stewart, 2007). Commitment to learning,

incorporating achievement motivation and school engagement, has formed part of an internal assets scale which predicted more resilient emotional and behavioural outcomes in another study with CLA (Bell, Romano & Flynn, 2015) and there are indications that prosocial aspects of empathy are important for socio-emotional development in CLA (Luke, 2012).

### **Resilience and the Role of Relationship Support and Social Activities**

The review of evidence above makes it clear that there could be wide heterogeneity of outcomes for CLA, with some young people in foster care showing considerable resilience despite experiencing significant risk (Schofield et al., 2005; Schofield, Biggart, Ward & Larsson, 2015). In fact, diversity in outcomes following abuse and neglect should be expected because of individual factors, such as biology and personal characteristics, environmental factors including experiences before and in care, as well as the interplay between them (Luke et al., 2014). This view is increasingly reflected in key guidance and policy documents which recognize the importance of multiple factors at the level of the individual, family, community and broader society as all influencing mental health outcomes (CAMHS Review 2008; DfE & DoH, 2015; DoH & NHS England, 2015; NICE, 2015; NICE/SCIE 2010/2013).

Theories of resilience grounded in the social-environmental context underpin the strengths-based approach of the empirical work in this thesis. Resilience has been defined as “good outcomes in spite of serious threats to adaptation or development” (Masten, 2001, p.2). Positioning resilience in the social context recognises the importance of individual factors such as good self-esteem and self-efficacy (e.g. Masten, 2001, 2009), but goes beyond the idea of resilience as a ‘trait’ residing within the individual, to conceptualise it as a dynamic process involving complex interactions

between personal qualities of individuals, supportive interpersonal relationships and broader structural and community support across the life course (Hart, Stubbs & Plexonsakis, 2015; Masten, 2001; Rutter 2007, 2012). These contextual factors may be especially important for young people who have experienced maltreatment, who may be less able to rely on internal resources such as self-esteem, and be more reliant on external support and structures for positive outcomes (Ungar, 2013a).

Some of the factors that have been associated with resilient functioning include interpersonal relationships, such as friendships (Bell & Romano, 2015; Daniel, Wassell & Gilligan, 1999; Haskett et al., 2006; Legault et al., 2006), recreational activities (Daniel, Wassell & Gilligan, 1999; Gilligan, 1999, 2008) and psychological characteristics such as self-esteem and self-efficacy (Bell & Romano, 2015; Legault et al., 2006). Developing a better understanding of how these factors are related to variations in both mental health problems and positive aspects of well-being in both CLA and non-CLA populations is important for supporting early interventions for better outcomes. Ecological Systems Theory (Bronfenbrenner, 1979, 2005; Bronfenbrenner & Morris, 2006) provides an important framework for understanding mental health across these transition years since it situates developmental outcomes in the *interactions* between an individual and their social and environmental contexts (Brewin & Statham, 2011). The young person is conceptualised as being at the centre of multiple inter-related systems, with both proximal processes and more distal factors contributing to better developmental outcomes in adverse circumstances (Ungar, 2013b; Ungar, Ghazinour & Richter, 2013).



## **The School Context**

**The role of the school in supporting mental health and well-being.** Children and adolescents spend extended periods of time in schools, which provide an important context for supporting more resilient outcomes (Brooks, 2006; Gilligan, 1998). When psychological adjustment is considered in terms of positive aspects of wellbeing, rather than just mental health problems, this can help to frame the role of schools as settings that can build assets, especially across transitional periods, by providing enhanced transition support, extra-curricular activities, and promotion of health literacy, thus building on the resources of young people and the communities around them (Matthews, Kilgour, Christian, Mori & Hill, 2015). The support that schools can provide for both educational outcomes and wider mental health and well-being puts them in a unique position, particularly since the two are closely inter-related (Goodman et al., 2011; Patalay, Deighton, Fonagy & Wolpert, 2015; Sebba et al., 2015). This has been reflected by a growing consensus, reflected in a range of policy initiatives, that schools provide an important context for fostering positive well-being. The *Every Child Matters* agenda (Department for Education and Skills, 2003) placed a duty on schools to promote health and well-being, and since then mental health and well-being have continued to be embedded in further policies. These have included guidance on promoting the emotional health and well-being of students for head teachers and schools (NICE, 2008, 2009, 2013; Public Health England, 2015), changes to the school inspection framework to assess how well schools are supporting personal development, behaviour and welfare (OFSTED, 2015), the ambitious and wide-reaching ‘Future in Mind’ report (DoH & NHS England, 2015) and a review published this year focused on how schools currently support mental health and the issues they face in terms of doing

so effectively (DfE, 2017a; Marshall, Wishart, Dunatchik & Smith, 2017; White, Lea, Gibb & Street, 2017).

The raised profile of schools as both an important environment within which positive mental health can be promoted and mental health problems identified and supported does not mean that all schools feel well-equipped to take on this role. Although positive school-based interventions can decrease distress, anxiety and depression and increase self-esteem and self-efficacy (Shoshani & Steinmetz, 2014), school based prevention programs do not always yield positive results for the mental health of adolescents (Dray et al., 2017). Furthermore, the extent to which schools support mental health varies greatly in terms of funding, staff capacity, priority, policies and links with external mental health providers, with most schools acknowledging that identification of mental health problems occurs on an ad hoc basis (DfE, 2017a; Patalay et al., 2016). Some schools still need further convincing of the importance of supporting social and emotional well-being in their students, and the link with academic outcomes (Murray-Harvey, 2010), even though there is evidence for the connections that whole school approaches and school ethos have with pupils' social experiences, overall school attainment, and absence (Banerjee, Weare & Farr, 2014; Public Health England, 2014). This may be due in part to a lack of agreement about how to incorporate socio-emotional well-being and relational approaches into school life (Pianta, Hamre & Stuhlman, 2003) as well as tension between integrating wider school culture and climate with more specific aspects of the social and emotional curriculum and targeted interventions (Roffey, 2010). The confidence and skills of staff are also factors, with most educators taking mental health seriously and wanting more specialist training in this area (Moon, Williford & Mendenhall, 2017) but many feeling under-skilled and under-prepared to manage children with mental health needs (Rothi, Leavey & Best,

2008). In fact, the recent review of initial teacher training courses identified an urgent need for better core understanding of child and adolescent development, behavioural management and special educational needs and disability (SEND) among incoming teachers (Carter, 2015). Recent House of Commons reviews of Children and Adolescents Mental Services (CAMHS) (House of Commons Health Committee, 2014) and the Mental Health and Well-being of Looked-after Children (House of Commons Education Committee, 2016) have gone even further and called for mandatory initial teacher training modules in mental health and well-being.

The need for a better understanding of mental health and the broader socio-emotional needs of children is situated alongside substantial arguments for placing relationships at the heart of teaching and learning (e.g. Smyth, 2007), which has been supported by a detailed review of the literature emphasising the importance of relationships in schools and their impact on mental health outcomes in early adolescents (McLaughlin & Clarke, 2010). When provided with the right resources and training, teachers can have an important impact on behavioural and emotion regulation especially when positive relationships between teachers and their students are fostered (O'Connor, Collins & Supplee, 2012) or when techniques such as emotional coaching are incorporated into teaching practice (Gus, Rose & Gilbert, 2015; Rose, McGuire-Snieckus & Gilbert, 2015). Teachers can also play a key role in fostering positive peer relationships within the classroom (Bierman, 2011), with evidence that warm, supportive teaching relationships can increase a child's peer acceptance and learning outcomes (Kiuru et al., 2015). The importance of this cannot be overstated, given that friendships in early adolescence are associated with higher school liking and academic competence, while peer victimisation is associated with lower academic competence (Erath, Flanagan, & Bierman, 2008). Moreover, both teacher support and school

connectedness are associated with lower depression in adolescents (Joyce & Early, 2014), and social relationships with parents and peers, as well as school belonging, can buffer the association between depression and lower academic achievement (Maurizi, Grogan-Kaylor & Delva, 2013).

**The role of the school and Virtual School in supporting the mental health and well-being of children in care.** This emphasis on schools as settings that have the potential to support psychological adjustment, through networks of supportive relationships, positive activities and fostering of skills and personal development, is important for CLA, for whom schools can serve as an important microsystem. For CLA, schools have the potential to enhance resilience and develop skills, provide an important ‘complementary secure base’ and support integration into wider communities and cultures (Daniel et al., 1999; Dent & Cameron, 2003; Gilligan, 1998). Despite this they have long been neglected as a supportive context. This is changing, with growing calls for the emotional well-being and mental health of CLA to be thought of not only as the responsibility of specialist mental health services (DfE & DoH, 2015; DoH & NHS England, 2015; House of Commons Education Committee, 2016). Instead it is argued that a broader systemic approach is needed, focused on early intervention, that prioritises relationships and places emotional well-being at the heart of all services (Bazalgette et al., 2015).

One important development, as part of the response to raise the profile of education and improve attainment in England, has been a new statutory obligation placed on local authorities to establish a ‘Virtual School’ Headteacher (VSH) to champion the education of CLA in their authority’s care (*Children and Families Act*, 2014). With a clear remit to improve educational outcomes by monitoring progress and working with partners to ensure the educational needs of CLA are better met, Virtual

Schools are well-placed to offer both direct and strategic support to foster positive outcomes for young people in the care system. In the past, the educational needs of CLA have often received less attention than other aspects of care planning (Harker, Dobel-Ober, Berridge & Sinclair, 2004; Jackson, 1989; Morgan, 1999), yet the educational under-attainment and sometimes inadequate educational experiences of CLA have been well documented (Jackson & Sachdev, 2001; Forsman & Vinnerljung, 2012). Rather than lower educational outcomes being the result of the care system *per se*, the risk factors that are associated with family breakdown and entry to care are closely linked with educational difficulties (Berridge, 2012; O'Higgins, Sebba & Luke, 2015). In contrast, placement and school stability, the avoidance of failed reunions with birth family members, conducting strengths based assessments and identifying and treating mental health issues that may be barriers to classroom success can significantly reduce undesirable educational outcomes (Pecora, 2012). Children in care, particularly foster care, make better progress educationally than children in need, once other factors are controlled for, identifying that care can be a protective factor, especially when children enter care at an earlier age and have a stable care trajectory (Sebba et al., 2015). Furthermore, a recent American study with adolescents in foster care found that although they had lower self-reported academic achievement and reported more negative school experiences, when school experiences and background were controlled for, there were no significant differences in achievements compared to their peers. This demonstrates the contextual importance of supporting more positive experiences at school (Benbenishty, Siegel & Astor, 2017).

Virtual Schools are well-placed to support the wider issues that impact on educational attainment, such as mental health, attachment, peer relationships, socio-behavioural and emotional well-being. Although the extent to which they do so has not

been previously documented, the role that VSHs should play in supporting the emotional well-being of CLA has been made explicit in the recent Social Care Annual Report (Para 105, Ofsted, 2016) and a commitment to doing so is clearly reflected in the Handbook for VSHs (Rees, A., & The National Virtual School Network, 2015, p. 21). Evidence of the effect that poorer mental health has on the later educational attainment of CLA is clear (Sebba et al., 2015), since a high score on the Strengths and Difficulties Questionnaire - a widely used screening tool for mental health problems - is a significant predictor of poorer educational attainment at the end of secondary school (Key Stage 4), both directly and via higher school and care difficulties. In turn, poor school performance among children in foster care can have a negative impact on later psychosocial problems, including economic hardship, drug use and mental health problems in young adulthood (Forsman, Brännström, Vinnerljung & Hjern, 2016).

Special educational needs and disability (SEND), which have a huge effect on attainment (DfE, 2017b; Sebba et al., 2015) are also much more common for CLA (DfE 2017b, Table 4a), and the primary need identified is 'social, emotional and mental health' (DfE 2017b, Table 4b). This is true in primary school and continues to increase in secondary schools, representing a very different profile to those not looked-after with SEND, where far fewer have this as their primary need (DfE, 2016b).

Attachment issues are also related to educational attainment, school readiness and a sense of belonging in schools (Bergin & Bergin, 2009; Commodari, 2013; Geddes, 2006; NICE, 2015). When children are securely attached they show better adjustment at school including greater emotional regulation, lower levels of delinquent behaviour, higher social competence and a greater tendency to take on challenges. In fact, beyond attachment to parents, forming positive attachment relationships with teachers can predict better academic motivation and fewer special educational referrals

than when such relationships are insecure (Bergin & Bergin, 2009). This supports CLA's own identification of the importance of positive adult role models such as teachers for their educational outcomes (Jackson & Sachdev, 2001; Sebba et al., 2015; Sugden, 2013). Informing schools about the learning needs of looked-after and adopted children and supporting an attachment perspective to understand behaviour can therefore provide positive support to schools (Phillips, 2007) and has been the focus of several initiatives and publications (Bombér, 2007, 2011; NICE, 2015; Rose, 2014). While there has been a lack of evidence-based research into the effectiveness of such approaches (Bergin & Bergin, 2009; Kennedy & Kennedy, 2004; Kennedy 2008), the Attachment Aware Schools initiative (Rose, Gilbert & McGuire-Snieckus, 2016) is helping to close that gap. This broad systemic approach to understanding children's behaviour and promoting their well-being within an attachment framework, both at the whole school level and beyond, has shown promising results in terms of improved social and emotional competence, behavioural regulation, mental health, self-esteem, academic engagement, confidence and well-being as well as improvements in adult-child relationships and more attuned and consistent responses (Rose et al., 2016). Continuing to build an evidence base of interventions in schools that are effective for CLA is imperative, since research evidence is still limited regarding how best to support young people in care to thrive at school (Forsman & Vinnerljung, 2012; Liabo, Gray & Mulcahy, 2013). Nonetheless, it is an investment worth making for CLA, other vulnerable groups and the wider school community, since approaches that support CLA will also tend to support all children in school (Luke et al., 2014; Rose et al., 2016).

**School transition.** The move from primary to secondary school is a key moment in most children's school lives that can provide a gateway to new and exciting opportunities. However, this age-expected transition, occurring alongside the key

developmental period of puberty, can place great demands upon children's socio-emotional and cognitive resources (Anderson, Jacobs, Schramm & Spittgerber, 2000; Blakemore & Frith, 2006) and is associated with a lowering of subjective wellbeing (Matthews et al., 2015) and a dip in academic attainment (West, Sweeting & Young, 2010). Whereas difficulties with transition were often put down to this co-occurrence with developmental changes, there has been an increasing recognition of the contextual factors that children must navigate, including 'organisational discontinuities' (Rice, 1997) such as moving from education with one teacher based in a single classroom to usually a much larger, heterogeneous school, multiple teachers, and a subject based curriculum with often increased expectations of independence and academic attainment (Anderson et al., 2000; Hanewald, 2013). As such there has been a renewed focus on the factors that can facilitate a good transition, with close working between the primary and secondary school, transition support such as taster days and induction, visits to schools, curriculum continuity, and enhanced Year 7 support all being identified as important (Evangelou et al., 2008).

Although the transition to secondary school is an academic turning point for children, it is also a social one (Langenkamp, 2009, 2010), with 'social discontinuities' (Rice, 1997) including changes to the peer context and relationships with teachers playing a key role in adjustment. For most children, concerns centre around the social context, including establishing themselves within new peer groups, making friends, and coping with fears about bullying (Ashton, 2008; Evangelou et al., 2008; Zeedyk et al., 2003). Where the peer context is more supportive - older children being perceived as friendly, making the move to secondary school with many primary school friends, having an older friend already at secondary school, or having older siblings who can offer advice and support – then transition can be more successful (Evangelou et al.,



2008; Weller, 2007; West et al., 2010). Having higher peer acceptance, higher quality friendships, lower loneliness and higher self-esteem before transition also goes on to predict aspects of later adjustment following transition including levels of loneliness, self-esteem, school involvement and academic achievement (Kingery, Erdley & Marshall, 2011). Furthermore, declining well-being and increases in mental health problems such as depression following transition may result from children's perceptions of declining support from teachers and classmates (DeWit, Karioja, Rye & Shain, 2011). However, this is not inevitable, since when teachers show increased sensitivity to the peer context then children can show better adjustment during the transition period (Hamm, Farmer, Dadisman, Gravelle & Murray, 2011).

Most children go on to show relatively good adjustment in the longer term following transition (Rice, Frederickson & Seymour, 2011), but this period can be particularly difficult for CLA who may have already experienced maltreatment, several placements and/or additional school transitions. Educational difficulties, experience of bullying, behavioural difficulties and problematic peer relationships can all make transition more challenging and these are the issues affect looked-after children to a greater degree (Brewin & Statham, 2011). As such, many CLA may need holistic, individualised, enhanced transition support since lower academic attainment, lower self-esteem and behaviour problems impact negatively on systemic transitions (Anderson et al., 2000; West et al., 2010), as can problems with social skills and making friends, which have been identified as issues for CLA (Brewin & Statham, 2011; Luke & Banerjee, 2011). Children with insecure attachments or those who have already experienced instability through placement changes are also more likely to experience problems during periods of further change (Dent & Cameron, 2003). Moreover, bullying impacts negatively on a successful transition (Evangelou et al., 2008) and CLA

are more likely to experience this (Daly & Gilligan, 2005), while children with special educational needs or disabilities (SEND) have also been found to experience more bullying during the transition period (Evangelou et al., 2008). As such Brewin & Statham (2011) argue that it is important to consider CLA's transitions within a broad ecological framework, in which individual factors such as children's fears, microsystemic factors - including peer relationships, relationships with school staff, transition activities and social and community factors - as well as mesosystemic and exosystemic factors, such as information sharing between stakeholders and broader stability over time, are all considered together to support a more positive transition process.

### **The Role of Social Activities - A Potential Antecedent**

Considering CLA's participation in leisure, cultural and informal social activities encourages a positive strengths-based approach by focusing on children's interests, rather than just problems or emotional issues (Fong, Schwab & Armour, 2006; Gilligan, 1999; NICE/SCIE, 2010/2013), and further supports a holistic view of health encompassed in ecological models of resilience (Coman & Devaney, 2011). A decade ago in the government white paper *Care Matters: Time for Change* (DfES, 2007) there was a clear statement that 'Factors such as secure attachment, friendship and engagement in positive leisure activities also promote health and wider wellbeing' (DfES, 2007, p.100), informed at least in part by the finding that over 50% of CLA had difficulties accessing what were termed 'positive activities' (DfES, 2007, p.6). As a result, this legislation made Directors of Children's Services responsible for ensuring that CLA could participate equally along with their peers, and emphasised the importance of considering leisure activities as part of care planning, and ensuring local authority run leisure facilities be available free of cost to CLA. Despite this, there are

huge variations in both uptake and availability between local authorities, at least in the realm of physical activities and sport, many years later (Murray, 2013).

There is evidence, particularly from qualitative studies, that participation in social and leisure activities can support more resilient outcomes. For instance, sustaining involvement with interests and activities helps to maintain familiar and consistent contexts across the care experience, even when relationships with the birth family cannot be maintained, or placements or schools change (Hollingworth, 2012). Continuity is associated with better wellbeing and minimisation of the impact of placement changes or breakdown (Fong et al., 2006). Young people also report many benefits including enjoyment, physical activity, creativity and self-expression and a positive impact on lifestyle and wellbeing (Quarmby & Pickering, 2015). Studies have found participation is associated with less loneliness, depression and drug use (Conn, Calais, Szilagyi, Baldwin & Jee, 2014), can positively impact educational pathways by enhancing competence, connection, skills, identification with school and school attainment (Gilligan, 2007; Hollingworth, 2012), fosters self-esteem, self-efficacy and autonomy (Hollingworth, 2012; Schofield, 2002) and is resilience-enhancing, particularly through the beneficial effect it can have on relationships (Gilligan, 1999, 2008).

Participation in leisure and social activities has the potential to enhance and extend relationships with others in a range of ways. It can support relationships with adults by bringing young people into contact with positive adult role models, often outside of the care system, who may take on important informal mentoring roles (Gilligan, 2007). These adults may be coaches or group leaders, or other adults within the informal social networks around the child, who might build a relationship through shared interests in the focus activity (Gilligan, 1999). Gilligan (1999) argues that the

benefit of organic or informal mentors arising from interests, activities and natural social networks is that the potential depth and continuity of such relationships may be greater than those arising through external formal mentoring schemes. Relationships with carers may also be strengthened through everyday social activities, many of whom report participating in shared leisure activities both within and outside the home with their foster children (Daly & Gilligan, 2005).

Going beyond the adult context, participation in extra-curricular activities is likely to have strong associations with peer relationship quality. Consistent participation is associated with improved interpersonal competence, especially for those children who have poorer competence to begin with (Mahoney, Cairns & Farmer, 2003) and stronger dyadic friendship ties (Schaefer, Simpkins, Vest & Price, 2011). The reciprocal nature of the relationship between activities and peer relationships and friendship networks is noted in the literature (e.g. Daly & Gilligan, 2005), since not only do looked-after children most frequently participate in activities with friends (Quarmby & Pickering, 2015), they also make friends through this participation. The presence of friends when taking part in activities has been found to influence CLA's desire to engage in that activity more often (Säfvenbom & Sandahl, 2000) and there is a higher level of participation in hobbies and leisure activities among those young people with good friendship networks (Daly & Gilligan, 2005). Taking part in activities including sports, creative and arts-based activities, volunteering and clubs such as Ranger Scouts offers CLA an opportunity to develop or strengthen social networks and friendships, both within and beyond the care system, and facilitates social integration (Gibson & Edwards, 2015; Hollingworth, 2012; Salmon & Rickaby, 2014; Quarmby, 2014; Quarmby & Pickering, 2015). However, there can be many barriers to CLA's participation in both formal and informal activities. A wide-ranging survey of the

experiences of looked-after children in Wales quotes many CLA as they explain the difficulties of making friends, keeping friends, and getting invited to sleepovers or parties when their schools and placements have changed (Mannay et al., 2015, p. 87-90). The focus on safeguarding can make some activities, such as sleepovers, more difficult for CLA or at times single them out as different when participating in other types of activities (Ridge & Millar, 2000; Gibson & Edwards, 2015). Lack of information sharing about young people's interests and activities can also be a barrier, particularly when placements change across boroughs and local authorities (Gibson & Edwards, 2015) or when foster carers are not informed about the young person's activities prior to placement with them, which is an identified issue in the majority of new placements (Fong et al., 2006). These barriers may go some way to accounting for the fact that CLA have much lower participation in structured activities, defined here as involvement in organisations, clubs, teams and groups, compared to other middle and high school students (Conn et al., 2014).

Furthermore, it is important to acknowledge that there is a growing debate about whether all types of social or leisure activities are beneficial for early adolescents. In the general population, there is some evidence that unstructured social activities with friends may increase delinquency, antisocial behaviour and other negative outcomes (Black & Martin, 2015; Mahoney & Stattin, 2000; McHale, Crouter & Tucker, 2001; Haynie & Osgood, 2005; Persson, Kerr & Stattin, 2007; Osgood, Wilson, O'Malley, Bachman & Johnson, 1996), but there is less research with CLA. One exception was a study carried out by Farineau & McWey (2011) which did find that greater frequency of involvement in extra-curricular activities was associated with higher levels of delinquency, contrary to their predictions. However, this research did not distinguish between structured and unstructured activities which the authors note as a limitation.

These findings, however, do hint at a complex picture where certain activities may not buffer against negative outcomes, or inadvertently exacerbate them. This may be as a result of the type of peers being associated with, since peer socialisation and participation in unstructured activities does have a causal influence on delinquency (Haynie & Osgood, 2005) and peer contagion effects have been noted for CLA in residential children's home settings (Ryan, Marshall, Herz & Hernandez, 2008). In fact, one study looking at social networks among maltreated youth in different types of placement, found that those in foster care had significantly more older friends than those in kinship care (Negriff, James & Trickett, 2015). Furthermore, CLA tend to have more complex social domains than young people who grow up in their birth families, including facilitated participation by the local authority, independent visitors and carers, activities with birth family members and everyday participation directed by the young person themselves. Gibson and Edwards (2015), for example, found that it is when these facilitated activities are embedded and related to the everyday interests and activities of the young person that engagement and participation increase, and well-being and personal development are best supported. However, where this is not working effectively, this may reduce stability in social contexts which support positive participation, and make unstructured activity less positive (Farineau & McWey, 2011; Mahoney & Stattin, 2000).

### **Conceptual Model**

The research findings presented in this introduction point to the importance of social activities, relationship qualities, and self-concept for mental health outcomes – both positive and negative. As a result, the work presented in this thesis aims to

understand the way these may be supported within current practice but also aims to test a mediational model in which relationship quality is associated with mental health problems and well-being via self-concept. Beyond this, we also aim to test our hypothesis that participation in everyday social activities – both general social activities with family and extra-curricular activities, and unstructured time with friends – could be related to mental health via relationship quality and self-concept. Figure i1.1 illustrates the variables in our model and the hypothesised links between them.

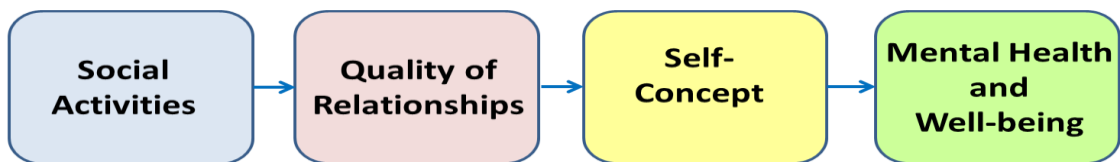


Figure i1.1 Latent variable model

However, while we tested this more simplistic latent variable model in Paper 2, we did not anticipate that it would capture the complexity of the relationships between our variables and this proved to be the case. We therefore propose that the model presented in Figure i1.2, focusing on distinct aspects of each broader area, is a more appropriate one for capturing nuanced relationships between different aspect of social activities, relationship quality, self-concept and mental health problems and well-being. In particular, we anticipated that there would be different pathways via different aspects of peer relationships – classmate support, loneliness and positive and negative qualities in dyadic best friendship, over and above sense of adult support. This conceptual model was used in both Papers 2 and 3.

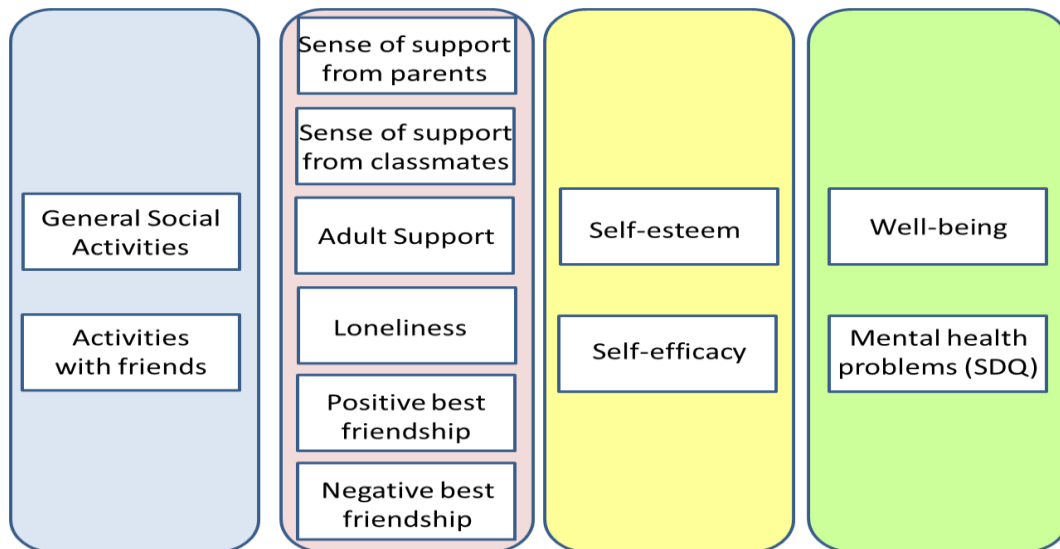


Figure i1.2 Conceptual model focusing on distinct aspects of social activities, quality of relationships, self-concept and mental health

### Aims and Research Questions

This thesis presents three research studies designed to better understand the risk and protective factors for changes in mental health across the primary to secondary school transition period; a time identified as challenging for all children, but especially CLA. The research, situated within the school context and carried out with the support of the newly established Virtual Schools which oversee the education of CLA, aimed to address the following research questions:

- 1) How do services provided by Virtual Schools for CLA, carers and schools address not only educational issues, but also the broader psychological factors that influence educational outcomes such as mental health and well-being, attachment, peer and family relationships, social and emotional understanding and behaviour?
- 2) How is relationship quality with peers, over and above adult support, associated with mental health problems and well-being in early adolescence,



and to what extent is this mediated by aspects of self-concept, particularly global self-efficacy and self-esteem?

- 3) Is participation in social activities with peers and family a key antecedent to relationship quality, self-concept and mental health?
- 4) What are the longitudinal predictors of change in mental health and well-being, and are these moderated by relationship quality?

### **Methodological Approach**

In order to address our research questions we used a mixed-methods approach and gained information from multiple informants. In our first paper we designed a survey to capture current provision for CLA, their schools and their carers to situate our understanding of mental health and well-being within current practice. We used the method of an online survey to maximise the size and scope of our potential sample, facilitate ease of responding, and to enable confidential responses if required to minimise response bias. While one downside to internet surveys can be a low response rate, we aimed to enhance engagement through identified good practice, such as personalised emails, reminders, and updated details on average survey response times (McPeake, Bateson & O'Neill, 2014). Although alternative methods of Virtual School effectiveness could have been undertaken, including analysis of official performance data such as children's attendance, exclusions, attainment, and referrals, this would not have enabled us to capture the views and individual voices of staff working in Virtual Schools which was a key aim. The survey format permitted the use of a combination of quantitative data collection methods, such as check boxes, alongside free text responses about provision. These free text responses enabled us to take a more idiographic approach to gain respondents' views on what was effective, perceptions of gaps in

services and their professional perspectives on barriers and facilitators to effective service delivery. This identified a variety of means by which CLA's social and emotional understanding, attachments, relationships and mental health are currently supported across these transition years. It demonstrated a broad understanding from professionals of the importance of relationships, including attachment, which provided important context and support for the model that we were testing in the following two papers, while also highlighting a minimal focus on peer relationships which our research aimed to address.

In Papers 2 and 3 we adopted quantitative methods to allow us to explore nomothetic relationships between the variables in our model shown earlier, both concurrently and longitudinally, to begin to understand the factors that might predict change in mental health and well-being over time. These empirical studies have given us a broad understanding of the factors associated with mental health problems and well-being in both CLA and non-CLA samples, and enabled us to better understand key variables that predict changes over time. The empirical work in these papers focussed primarily on the use of a wide range of self-report questionnaires. The bulk of these were the same for both CLA and non-CLA groups, although the latter had two additional self-report questionnaires about classmate and parental support. We used both established questionnaires and some that were newly developed for this thesis. There were no established scales that captured the range of social activities that might be important to CLA and their peers during early adolescence, or brief (3 item) scales of sense of adult support and sense of school achievement and engagement. These scales were therefore developed for this thesis, but some of the items for these scales were drawn or adapted from a Compendium of Assessment Tools Measuring Violence-related Attitudes, Behaviours and Influences among Youths (Dahlberg, Toal, Swahn &

Behrens, 2005), because this compendium contained a vast number of scales that assessed factors influencing outcomes for young people from age 11 onwards at multiple systemic levels.

In Paper 2, we tested our conceptual model with non-looked-after children of the same ages as our CLA, to see if there was evidence of associations between social activities, relationship quality, self-concept and mental health, both concurrently and over time, in participants of our focus age group. This study also provided useful comparison data for our study with CLA reported in Paper 3. Because the study reported in Paper 2 involved a very large sample and data collection at two-time points, we could conduct robust statistical tests, including structural equation modelling, testing complex mediated pathways, while also controlling for the effects of other variables. Although we were unable to test the entire mediational model longitudinally due to the limitation of only having two time-points, we did test for cross-lagged associations between consecutive parts of our conceptual model: social activities and relationship quality; relationship quality and self-concept; and self-concept and mental health.

Although adolescents are considered the best informants for social relationships and friendships, the fact that the empirical work reported in Paper 2 is entirely based on self-report questionnaires gives rise to the issues of shared method variance and response bias, particularly given the sensitive nature of many of the questionnaires. A multi-informant approach including teachers, peers and parents or multi-method approaches, such as the inclusion of peer sociometric nominations, would be more robust and potentially reveal further insights, since ratings of behaviour and social relationships can differ by informant (e.g. Howe & Parke, 2001) and screening measures of mental health problems are most sensitive when more than one informant

provides information (Goodman, Ford, Simmons, Gatward & Meltzer, 2000; Goodman, Ford, Corbin & Meltzer, 2004; Johnson, Hollis, Marlow, Simms & Wolke, 2014).

However, in Paper 3, which gathered longitudinal data from a sample of CLA in foster care across two school years, we not only gathered self-report questionnaire data, but also teacher report data on mental health problems and socio-emotional functioning. This enabled us to overcome, to some extent, issues around shared method variance and to validate the self-report measures used for mental health and well-being. In this study, we tested the same model as in Paper 2 concurrently, but were unable to test complex cross-lagged associations across time due to a smaller sample size. Instead, we tested whether our variables measuring social activities, relationship quality and self-concept predicted change in mental health problems and well-being over time, and tested whether self-concept variables predicted change over time moderated by relationship quality. We also explored possible moderations by year group and gender.

Because much of this research involved children, including children in foster care, there were many ethical considerations related to the design and implementation of our second and third studies. Overall ethical approval for all three studies was obtained from the University of Sussex Sciences and Technology Cross-Schools Research Ethics Committee. However, because we were working with 20 different local authorities for the longitudinal research involving CLA, we also had to obtain additional ethical approval in one local authority and adjust our procedures in another to accommodate their own research protocols. For our study with children who were not in foster care which was carried out in schools we firstly obtained head teacher consent, and then information letters were sent home to parents and carers giving them the opportunity to request that their child not participate (opt-out consent). For the longitudinal study with CLA, we obtained consent from head teachers and then social care, carer, and CLA opt-

in consents. Where a child was on a Section 20 care order, we also required birth parent consent. At the beginning of both time points of studies 2 and 3, children were informed that they did not have to participate and were given the option of opting-out totally. They were also informed that they could leave out individual questions that they did not feel comfortable or able to answer, and that they could ask to withdraw their data up to 3 months from the end of the study. All children participated at school during the course of a normal school day, and none of the information sheets for children or parents/carers used in Paper 3 explicitly referred to it being a study focussed on CLA to avoid foster children from feeling singled out in any way. A school and personal code were assigned to every child in both studies to ensure anonymity. The measures focussed on social activities, relationship quality, self-perceptions and mental health and well-being. No questionnaires referred to any issues regarding maltreatment or care status. Furthermore, the Children and Adolescents Social Support Scale (CASSS; Malecki, Demaray, Elliott & Nolten, 1999) which was used in the study with non-CLA, measuring social support from parents and classmates, was not included in the study involving CLA.

Once children had completed the self-report measures, they were encouraged to ask any questions they had, and were reminded of the normal procedures for accessing support within their school. They were also provided with a sheet detailing contacts from external agencies that provide support should they need it, which they were able to take home. Furthermore, parents and carers were informed when their child had participated in case any additional support was required.

## **Overview of Empirical Studies**

This thesis comprises three papers that focused on addressing our research questions. A summary of the papers is provided below.

### **Paper 1: Supporting the education and well-being of looked-after children: What is the role of the Virtual School?**

Our first paper aimed to illuminate how and to what extent Virtual Schools, which were established to champion the education of CLA within each local authority, are currently providing support, not only through direct educational interventions but also through supporting broader psychological factors that might impact on attainment such as attachment, relationships and mental health. We sought to gain a picture of how Virtual Schools supported three target groups – CLA, their foster carers and schools – to situate the work within the microsystems around each child. This paper focussed on the transition years from primary to secondary school, which have been identified as being a challenging time for CLA. Virtual School Headteachers were invited to complete a survey of their provision, including barriers and facilitators to effective service delivery. The paper reports the results of a survey completed by 29 Virtual Schools. An inductive thematic analysis was carried out which identified four overarching themes to service provision: Enhanced learning opportunities; Specific Transition Support; Relationships and Well-being; Raising Awareness. The paper identified direct work, inter-professional working and the development of supportive environments, especially those guided by attachment theory, as key areas of practice and discusses provision in relation to resilience within an Ecological Systems Theory framework.

## **Paper 2: Longitudinal associations between social activities, relational support and mental health and well-being in early adolescence**

In this second paper, we tested our model to examine the links between relationship quality with peers and adults and mental health and well-being outcomes in young adolescents aged 10 to 13 years. This longitudinal study involved a sample of 484 children who completed a range of self-report measures approximately six months apart in the school setting. We examined whether these links were mediated by different aspect of self-concept, with a primary focus on self-esteem and self-efficacy. We also aimed to establish whether participation in social activities – both time spent with family and engaging in more structured activities compared to less structured time ‘hanging out’ with friends - were key antecedents to relationship quality. We examined cross-lagged associations over time and hypothesised that better relationship quality would predict improvements in self-concept, that better self-concept would predict decreased mental health problems and increased wellbeing, and that participation in social activities would predict changes in relationship quality over time. We report a number of important concurrent associations and mediated pathways, which establish the importance of peer relationships, connecting aspects of relationship quality to positive well-being and mental health problems, over and above adult support.

## **Paper 3: Understanding changes in the mental health of CLA in foster care in early adolescence: The role of peer relationships and self-concept**

The third paper presents findings from a longitudinal study of children in foster care (aged 10-14 years), to test these key pathways in our focus population, with the data from Paper 2 providing a point of comparison for the first time point of data collection. As in Paper 2, we used a range of multi-dimensional self-report measures to explore fine-grained associations between peer and adult relationship quality and mental

health outcomes, mediated via self-concept, as well as testing whether participation in social activities was an important antecedent to relationship quality. This study revealed a pattern of differentiated links from peer and adult support to mental health and well-being, particularly identifying negative aspects of peer relationships – both loneliness in the wider peer setting at school and negative qualities in best friendship – as important predictors of mental health problems. This paper also identified self-efficacy as a key longitudinal predictor of change for well-being across our entire sample, as well as establishing that different aspects of peer relationships moderated the longitudinal associations between self-efficacy and both well-being and mental health problems. The importance of self-efficacy is discussed along with different elements within the peer context. The use of teacher reports on mental health problems also enabled us to demonstrate good concordance with the self-report mental health problems measure.



## **Paper 1**

**Supporting the education and wellbeing of looked-after children:**

**What is the role of the Virtual School?**

### **Abstract**

The Children and Families Act (2014) placed a statutory responsibility on local authorities in the United Kingdom to establish a Virtual School Headteacher with the role of championing the education of all children looked-after within that authority. The current research was designed to illuminate how Virtual Schools are currently supporting educational outcomes for children looked-after, not only through educational interventions, but also through supporting broader psychological factors that might impact on attainment such as attachment, relationships and mental health. Virtual School Head Teachers from 29 local authorities completed an online survey about the services they provided to three target groups – children looked-after, foster carers and schools – with a particular focus on the transition years from primary to secondary school, which have been identified as being a difficult time for children looked-after. Using inductive thematic analysis four overarching themes to service provision were identified: Enhanced learning opportunities; Specific Transition Support; Relationships and Well-being, and Raising Awareness. Direct work, inter-professional working and the development of supportive environments, particularly guided by attachment theory, were identified as important areas of practice. Practice is discussed in relation to resilience and Ecological Systems Theory and variability in service provision and the challenges facing Virtual Schools are identified along with suggestions for future research.

## Introduction

The educational needs of children looked-after (CLA) have often received less attention than other aspects of care planning (Harker, Dobel-Ober, Berridge & Sinclair, 2004; Jackson, 1989; Morgan, 1999), yet the educational under-attainment and sometimes inadequate educational experiences of CLA has been well documented (Fletcher-Campbell, 1998; Goddard, 2000; Jackson, 1988, 1994; Jackson & Sachdev, 2001). As part of the response to raise the profile of education and improve attainment in England, a statutory obligation has been placed on local authorities to establish a ‘Virtual School’ Headteacher (VSH) to champion the education of CLA in their authority’s care (*Children and Families Act*, 2014). With a clear remit to improve educational outcomes by monitoring progress and working with partners to ensure the educational needs of CLA are better met, Virtual Schools (VS) are well-placed to offer both direct and strategic support to foster positive educational outcomes for young people in the care system

There are large gaps, however, in our understanding of the diversity of current VS provision, and particularly the extent to which such provision addresses the broader psychological factors likely to be affecting educational attainment in this group, such as mental health, attachment, peer relationships, socio-behavioural and emotional well-being. The present study aims to address these gaps, with a specific focus on if, to what extent, and how VS are addressing such factors in their efforts to promote educational attainment in CLA, along with VS perceptions of effective provision, and the barriers and facilitators to achieving this. We give particular attention to the transition years from primary to secondary school in England, encompassing the age range of 10 to 15 years, since this is a key vulnerability period for the development of socio-behavioural and socio-emotional problems (Rice, Frederickson & Seymour, 2011; West, Sweeting

& Young, 2010) and over a third of CLA are currently within this age range (DfE, 2016a, Figure 1).

### **Remit of the Virtual School**

The role of the VSH grew out of a successful initial pilot in eleven local authorities in England (Berridge, 2009) and continues to evolve. Their key aim is to champion the education of CLA in their authority's care, *as if* they all attended a single school (*Children and Families Act*, 2014). In reality, CLA are dispersed across many schools or alternative educational settings, both within and outside of the local authority responsible for their care. The VS can therefore be expected to play both a direct and a strategic role; supporting multi-agency approaches and working alongside a range of partners to raise the profile of education alongside other aspects of care planning, through to working at an individual child level to support individualised personal education plans (PEPs) (DfE, 2014a).

The innovative role of the VSH has been identified as having a beneficial impact on the education of CLA in most recent local authority inspections (Office for Standards in Education (Ofsted), 2016), but there is no 'one model' of a VS and the size and scope of provision varies (Ofsted, 2012). The remit continues to be shaped by regional priorities and needs, and nationally through legislative changes such as the incoming *Children and Social Work Bill*, 2017, which will extend the responsibility of VSHs to include children and young people achieving permanence from care, including those adopted from care.

One important development has been the recent establishment of the National Association of Virtual School Headteachers (NAVSH) which has enabled VSHs to formulate collective strategic priorities and provide a unified professional response to incoming legislation and proposed changes affecting CLAs' education. The role that

VSHs should play in supporting the emotional well-being of CLA has been made explicit in the recent Social Care Annual Report (Para 105, Ofsted, 2016) and is clearly reflected in the Handbook for VSHs (Rees, A., & The National Virtual School Network, 2015, p. 21). One of the key priorities of the newly established NAVSH is to support schools in implementing the recent National Institute for Health and Care Excellence (NICE) Guidelines on Attachment (NICE, 2015). This emphasised the importance of VSHs working with others to ensure that children and young people with attachment difficulties are effectively supported in educational settings (NICE, 2015, Section 1.2). The NAVSH's commitment to supporting attachment, emotional health and well-being, and resilience is also stated in the information they provide to schools on their website ([navsh.org](http://navsh.org), "Emotional Health & Well-being", n.d.).

Indeed, our analysis of VS practice across these transition years is framed by a resilience perspective, where resilience is viewed as a dynamic process involving complex interactions between personal qualities of individuals, supportive interpersonal relationships and broader structural and community support across the life course (Hart, Stubbs, Plexousakis, Georgiadi & Kourkoutas, 2015; Masten, 2001; Rutter, 2007, 2012). Identifying how Virtual School practice might support resilient outcomes by working at different levels both with and around the child is important, given that care level factors such as earlier entry into care and placement stability (Sebba et al., 2015) through to encouragement from one key supportive adult at the interpersonal level (Jackson & Sachdev, 2001) have been found to influence better than expected educational outcomes. Ecological Systems Theory (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006) situates development within multiple levels of embedded systems, ranging from the proximal child environments known as microsystems (e.g., foster family, school, peer group) and the interconnections between

them (the mesosystem), through to more distal structures within the exosystem (e.g., education and political systems). This provides a valuable theoretical framework for identifying the different levels at which the Virtual School may be intervening to support the education of CLA across this age range.

### **Explaining Educational Underachievement in CLA**

In 2016 at the end of primary school at age eleven, 25% of CLA attained the nationally expected standard or above in reading, writing and mathematics (compared to 54% for non-CLA), but by the end of secondary school only 13.6% achieve the expected benchmark of five A\*- C grade GCSE's (the exams taken aged 15-16), below the 53% of non-CLA who achieved this level (Department for Education (DfE), 2017). While many factors may account for this apparent decline relative to peers, school outcomes are closely related to issues of mental health and wellbeing (Public Health England, 2014). Understanding and intervening to address underlying psychological factors may be a crucial platform for the success of VS in tackling under-attainment among CLA.

Many children entering care have experienced severe prior disadvantage, disruption, abuse and/or neglect, and can correspondingly display a profile of significant maladjustment across many aspects of development. (Bazalgette, Rahilly & Trevelyan, 2015a; Berridge, 2012; Fisher, 2015). These pre-care experiences are associated with poorer educational outcomes (O'Higgins, Sebba & Luke, 2015). Sixty percent of children become looked-after as a result of abuse or neglect (DfE, 2016a), and often children will have experienced more than one type of maltreatment (Trickett, Negriff, Ji, & Peckins, 2011). Maltreatment has been associated with a range of negative outcomes that may impact on educational attainment, including mental health problems (Tarren-Sweeney, 2008), difficulties with relationships and interpersonal skills

(Egeland, Yates, Appleyard & Van Dulmen, 2002; Parker & Herrera, 1996; Darwish, Esquivel, Houtz & Alfonso, 2001; Salzinger, Feldman, Hammer & Rosario, 1993) and less prosocial, more aggressive, disruptive or withdrawn behaviour (Alink, Cicchetti, Kim & Rogosch, 2012).

Special educational needs and disability (SEND) also have a huge effect on attainment (DfE, 2017b) and are much more common for CLA (just over 57% are identified as having such needs) than for the total population with SEND (just over 14%) (DfE 2017b; Table 4a). It is noteworthy that the most common primary need is ‘social, emotional and mental health’. In primary schools up to age 11, about 41% who are receiving the highest level of SEND support (in England having a ‘statement’ or Education and Health Plan (EHC)) have this as their primary need compared to just over 13% with moderate learning disabilities and just under 20% with speech, language and communication needs. In secondary schools this rises to almost 50% (DfE 2017b, Table 4b). This is a very different profile to those not looked-after with SEND, where only just over 12% of those with statements or EHC plans have ‘social, emotional and mental health’ as their primary need (DfE, 2016b). It reflects the high level of mental health difficulties experienced by CLA, the frequency and severity of which more closely resembles clinic referred populations than the population at large (Meltzer, Corbin, Gatward, Goodman & Ford, 2003; Tarren-Sweeney, & Vetere, 2014), and is far higher than even the most socio-economically disadvantaged children living in private households (Ford, Vostanis, Meltzer, & Goodman, 2007).

Attachment issues are also related to educational attainment. These have been estimated to affect a quarter of all children, and are associated with a range of socio-economic risk factors, but they are particularly identifiable in CLA (Bergin & Bergin, 2009; Cicchetti, Rogosch & Toth, 2006; Cyr, Euser, Bakermans-Kranenburg & Van

Ijzendoorn, 2010; Howe & Fearnley, 2003). Children with insecure or disorganised attachments have been found to have a number of difficulties relative to their securely attached peers, many of which can impact directly or indirectly on learning and attainment, including more externalising problems (Fearon, Bakermans-Kranenburg, van IJzendoorn, Lapsley & Roisman, 2010), some increase in internalising problems (Madigan, Atkinson, Laurin & Benoit, 2012), less resilience when faced with challenge (Matas, Arend & Sroufe, 1978), lower competence with language (van Ijzendoorn, Dijkstra & Bus, 1995), self-regulation difficulties, particularly social self-control (Drake, Belsky & Fearon, 2014), and more problems with peer relationships in middle childhood (Seibert & Kerns, 2015).

The transition from primary to secondary school is a time when many such difficulties can come to the fore. Many CLA may need holistic, individualised, enhanced transition support (Brewin & Statham, 2011) since lower academic attainment, lower self-esteem and behaviour problems impact negatively on systemic transitions (Anderson, Jacobs, Schramm & Splittgerber, 2000; West et al., 2010), as can problems with social skills and making friends, which have been identified as issues for CLA (Brewin & Statham, 2011; Luke & Banerjee, 2011). Children with insecure attachments or those who have already experienced instability through placement changes are also more likely to experience problems during periods of further change (Dent, & Cameron, 2003). Bullying is also known to impact negatively on a successful transition (Evangelou et al., 2008) and CLA can be up to two times more likely to experience bullying (Daly & Gilligan, 2005), while children with SEND have also been found to experience more bullying during the transition period (Evangelou et al., 2008).



## **Virtual School Strategies and Interventions**

Based on the considerations above, there is need to identify practices by Virtual Schools to address the psychological factors that underpin educational under-attainment among CLA. Such work may take place at different levels around the child, specifically: a) direct interventions with children looked-after; b) support at the microsystemic level, particularly for schools and carers in working with children looked-after and c) work at the mesosystemic and exosystemic levels including awareness-raising, training, and multi-agency work with other stakeholders at the (e.g. educational psychology, social care services, health providers).

Specialist direct work with CLA may be provided by the VS, as funding such specialist input within every single school would not be cost-effective. Such centrally-provided direct work may take many forms; examples include a phone line to support homework and one-to-one tutoring, both of which were found to be effective in the pilot of Virtual Schools (Berridge, 2009). One-to-one mentoring has also been used prior to the establishment of Virtual Schools by some local authorities (Holland, Faulkner & Perez-del-Aguila, 2005), with successful outcomes for older adolescents preparing to transition out of care (Osterling & Hines, 2006) but whether it is employed by VSHs or used to support transitions between schools has not been researched.

Much of the work of Virtual Schools is likely to involve working with microsystems around the child, since these are the environments within which most children build their relationships and where they spend the most time. Identifying the role that the VS plays in supporting carers is vital since there is a recognised need to challenge and overcome low expectations among some professionals and carers (Tideman, Vinnerljung, Hintze & Isaksson, 2011; Jackson & Sachdev, 2001) and the foster care setting plays an important part in children's educational outcomes (e.g.

Martin & Jackson, 2002; Harker et al., 2004; Jackson, Ajayi & Quigley, 2005). Schools are also a crucial microsystem, since they provide the daily learning environment for most CLA, have the potential to enhance resilience and provide an important ‘complementary secure base’ (Daniel, Wassell & Gilligan, 1999; Dent & Cameron, 2003; Gilligan, 1998). The important role schools play in supporting social and emotional wellbeing is emphasised in good practice guidelines (NICE, 2008; NICE, 2009) and the connections that whole school approaches and school ethos have with pupils’ social experiences, overall school attainment, and absence has been evidenced (Banerjee, Weare & Farr, 2014). Virtual Schools have the potential to influence school ethos and to use their expertise to raise awareness of the impact of early trauma, attachment and mental health on learning in school. Developing an awareness of attachment in school has been the focus of several initiatives and publications (Bombér, 2007, 2011; Rose, 2014), and is viewed as an important element in core teacher training and professional development (Geddes, 2006). However, little is documented with regards to how VS raise awareness of attachment within schools, despite its high profile in the aims of their national association.

At a more strategic, mesosystemic level all agencies need to work together to positively impact educational outcomes. Multi-agency training to raise awareness of the issues affecting CLA is acknowledged good practice (NICE, 2010), so capturing the breadth and focus of any training delivered by Virtual Schools is important. Having responsibility for managing the Pupil Premium Plus (PPP) funding, which amounts to £1,900 annually for each CLA, also means Virtual Schools have the capacity to use this funding creatively through targeted or pooled spending (DfE, 2014b). Much of the decision-making regarding the spending of this budget will be made at Personal

Education Plan (PEP) meetings which provide an interdisciplinary forum with and around each child (Hayden, 2005).

### **The Present Study**

The current study was therefore designed with the following research questions in mind: 1) How do the services provided to CLA, foster carers and schools address not only educational issues, but also the broader psychological factors that influence educational outcomes such as mental health and well-being, attachment, peer and family relationships, social and emotional understanding, and behaviour across the transition years? and 2) What types of provision are seen as most successful and what are the key factors that would improve service provision? VSHs or their nominated leads were invited to respond to an online survey to detail the services or training currently provided within their local authority, with an emphasis on the transition years. They were asked to identify the focus of each provision and to evaluate which services they perceived to be most effective, alongside barriers to successful service delivery.

## **Method**

### **Participants**

Details of our online survey were sent to 148 VSHs across nine regions in England: South East; South West; East Region; London; East Midlands; West Midlands; Yorks and Humber; North East and North West. Twenty-nine surveys were completed and returned online: nineteen by the VSH, five by another member of staff at management level and five by a different member of the VS staff team. Regional response rates ranged from 0% to 28%, with an overall response rate of 20%.

## **Survey Description**

Participants were informed the aim of the survey was to identify current provision within their local authority, with a particular focus on the support provided across the transition school years from primary to secondary school. Participants were asked to describe services provided directly by the VS as well as those provided within their local authority with other service providers.

Participants provided details of the number of staff employed by the VS and their roles, and the numbers of CLA for whom they were currently responsible (from 0-200 up to >1600), including the number currently in the transition school years 6 to 8. At the end of the survey, participants were invited to add further information about the structure and working partnerships of their VS.

The main focus of the online survey was on free text descriptions of services, support and training provided to three target groups: 1) CLA; 2) foster carers/families; and 3) schools. A similar series of key questions was asked about each of these three targets, including: a description of the service; its focus, who it was provided for and at what level e.g. individual schools/clusters of schools/ across the whole local authority. There were small adjustments to the wording and selective display of relevant tick-box options as appropriate, to identify the focus and targeted recipients of each service and the professionals involved. In the final part of the survey participants rated their satisfaction with service provision for each of the three target groups and identified strengths and areas for development. A full list of questions is included in Appendix A.

## **Procedure**

The survey was developed in consultation with a planning group, including representatives from twelve Virtual Schools and organisations including the Nationwide

Association of Fostering Providers (NAFP) and the Care Leavers' Association. This study was reviewed and approved by the appropriate institutional ethics committee.

VSHs were invited via email to complete the survey between November 2014 and January 2015. To facilitate dissemination of findings, participants were asked for consent to be listed as a provider of certain services and share their contact details. They were informed they would be given a personalised provision map, mapping their current provision in relation to the categories of service provision identified.

### **Data Analysis**

Free text responses were coded using NVivo10, a qualitative analysis software package that allows themes to be organised within a hierarchical structure. Responses were analysed using an inductive thematic analysis approach (Braun, & Clarke, 2006) and were grouped into broad themes based on content by one of the primary authors. Where multiple themes were mentioned in a single comment all were credited. Initial themes and provision maps were shared with the core planning team of 12 Virtual Schools and they were asked whether the themes identified from the coding of their services accurately reflected their provision as a check of coding validity. Descriptive and inferential statistics were computed for quantitative survey questions (scores on rating questions), but these are not the focus of this paper.

### **Results**

Preliminary analysis of the VS responses showed great variability in the local context. The numbers of CLA that Virtual Schools were responsible for ranged from 0-200 to well above 1600; specifically, the number in the transition school years 6 to 8 (10 to 13-year-olds) ranging from less than 20 to over 250. However, Virtual Schools

responsible for similar numbers of CLA could vary greatly in terms of staffing numbers. The number of staff ranged from two to over thirty-five. The only role common to all was that of the statutory VSH and in fourteen Virtual Schools they were only part-time. In addition, the position of the VS within the local authority also varied (e.g., Social Care versus Education).

### **Service Focus and Provision**

We identified four key themes which will be considered in turn: Enhanced Learning Opportunities; Relationships and Wellbeing; Specific Transition Support; and Raising Awareness. Labels following illustrative quotes indicate the contributions of different VSs (VS 1-29).

**Enhanced learning opportunities.** Many services were focused on providing enhanced opportunities for learning to raise educational attainment. ‘Educational attainment’ was the most frequently selected focus for service delivery and comments such as ‘Our whole purpose is to improve the attainment of looked-after children and therefore their life chances’ (VS 28) supported this theme. Direct work with CLA was frequently undertaken (see Table 1.1 for examples) and was identified in free text responses as a successful aspect of work by over a third of respondents, with the benefits of consistent, familiar support being emphasised across a diverse range of practice. As well as supporting current levels of attainment, several Virtual Schools were involved in providing broader structural and community support to young people to enhance longer term learning. Much of this work involved raising aspirations, awareness of careers and providing connections to further or higher education opportunities.

**Table 1.1***Examples of direct provision to enhance learning opportunities*

<b>One-to-one adult support</b>	
Tuition	<ul style="list-style-type: none"> <li>○ Identified by some Virtual Schools as being funded by the Pupil Premium Plus budget; delivered by Virtual school staff, private tutors or tutoring agencies; could be responsive to need in terms of location and frequency. Provided by seven Virtual Schools.</li> </ul>
Mentoring	<ul style="list-style-type: none"> <li>○ Often supports broader issues as well as educational attainment. Provided by nine Virtual Schools, with two providing specific Transition Learning Mentors.</li> </ul>
Caseworker	<ul style="list-style-type: none"> <li>○ Four Virtual schools explicitly described individual caseworker support with a focus on supporting education.</li> </ul>
<b>Educational interventions</b>	
In-placement resources	<ul style="list-style-type: none"> <li>○ Sending home of equipment and books to looked-after children in placement. Provided by four Virtual Schools; two providing the evaluated provision 'Letterbox Club' - a parcel of books, maths activities, stationery sent home monthly for 6 months.</li> </ul>
Education Workshops	<ul style="list-style-type: none"> <li>○ Delivered by two Virtual Schools for groups of pupils on aspects of the curriculum requiring support, such as maths or writing, with one organising the workshops for pupils to attend with carers.</li> </ul>
<b>Longer term education support</b>	
Careers advice, Further and Higher Education	<ul style="list-style-type: none"> <li>○ Employment of Careers Advisors; Post-16 Advisors; Education, Employment and Training staff.</li> <li>○ Development of close links with work related learning courses and local education providers, including FE colleges and Connexions.</li> <li>○ Employment and work experience initiatives and training and information days on college applications and apprenticeships.</li> <li>○ Virtual College established in one local authority based in the local University, offering a similar service to the Virtual School but to young people aged 16 plus. Close working partnership with the Widening Participation teams at two local universities to provide bespoke and group opportunities and raise aspirations.</li> <li>○ Annual 'Aim Higher' visits to give looked after children the opportunity to meet with current students who had been in care. Referred to or provided by 11 Virtual Schools</li> </ul>

At the micro and mesosystemic levels, Virtual Schools often worked strategically to increase learning opportunities and raise attainment through monitoring, intervention, partnership working (e.g., with social workers as well as school staff) and providing challenge. Monitoring data on educational attainment enabled Virtual Schools to prioritise children according to need and could inform the Personal Education Plan (PEP) cycle, the support provided as a result, and the targeted spending of the Pupil Premium Plus budget. The sense of the VS as a force to not only support but challenge individual schools was captured by one respondent who wrote, ‘We use PEP ... to drive up standards but also have good links with all our schools...Advice, guidance and challenge – this is the main aspect of our work.’ (VS 28).

**Well-being and relationships.** It was clear that Virtual Schools lead, fund or work collaboratively to support a great deal of work that also impacts on mental health and well-being, attachment, relationships, social and emotional understanding, behaviour and therefore the stability of home and school placements (see Table 1.2 for examples). Virtual Schools rarely identified ‘educational attainment’ as the sole focus for the provision they were describing. The ‘everyday’ direct and strategic work that they undertook was frequently identified as supporting at least one and often several of the other focus areas, particularly social and emotional understanding, which was a strong theme across all three target groups. Much of the work within this theme was focused on the micro and mesosystemic systems around the child. Delivery of multi-agency training and whole school approaches to support wellbeing was a key feature of Virtual Schools’ provision, with attachment theory having a strong influence on training delivered to foster carers and schools, and whole school interventions. Some distinct approaches were described, including one VS working on a pilot study run in partnership with a local university to develop Attachment Aware schools (Rose, 2014)



and another that had embedded the Thrive approach<sup>1</sup> to foster a more attachment friendly learning environment. Some had also developed a network of close working relationships with other services enabling access to priority assessments or interventions to support wellbeing when required. Seven Virtual Schools directly employed Educational Psychologists within their team, and this role was viewed positively. Working closely with multi-agency teams that included mental health provision was also seen as successful, but direct employment of staff with a clinical or mental health focus was less common. Very few Virtual Schools provided mental health support directly to children in the school setting, although one Virtual School was running ‘Zippy’s Friends’, a school mental health promotion program focused on developing coping skills (Holen, Waaktaar, Lervag & Ystgaard, 2012)

There were some distinct examples of Virtual Schools working with external providers to foster wellbeing, sometimes via the spending of the Pupil Premium budget. One VS described working with third party providers to provide drama therapy, music, counselling services and a behavioural support service, stating that ‘Managing Pupil Premium has helped us to respond to the need of schools and young people which is positive and has also helped us to be creative in our approaches to some interventions’ (VS 20). There was less evidence of Virtual School services providing microsystemic support at the peer group level. Reflecting this, supporting peer relationships did not come out as a strong focus area in the tick box focus choices either. However, some did provide small group or nurture based peer support activities that, when detailed, were focused on improving peer relationships and behaviour.

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<sup>1</sup> [www.thriveapproach.co.uk](http://www.thriveapproach.co.uk)

**Table 1.2*****Examples of work supporting well-being and relationships***

Support with attachment, trauma and behaviour	<ul style="list-style-type: none"> <li>○ Attachment training for schools, provided by 11 Virtual Schools, in two cases with support from university or national specialist agency.</li> <li>○ School self-assessment frameworks</li> <li>○ VS staff trained in Thrive approach, supporting school staff to become Thrive practitioners</li> <li>○ ‘Space to Reflect’ in collaboration with external provider supporting professionals working with LAC with challenging behaviour.</li> <li>○ Foster carer support using relationship based play based on ‘Theraplay’ principles.</li> <li>○ Conferences for foster carers and/or school staff (four VS)</li> <li>○ Training for foster carers where the focus identified went beyond educational attainment (18 Virtual Schools)</li> </ul>
Mental health	<ul style="list-style-type: none"> <li>○ Zippy’s friends: a 24 week positive mental health after school provision</li> <li>○ Multi-agency ‘LAC development days’ on mental health, emotional wellbeing and attachment</li> <li>○ Support for foster carers provided by VS employed EP and mental health worker</li> </ul>
Provision of extra-curricular support:	<ul style="list-style-type: none"> <li>○ Virtual School run nurture group – activities including gardening, cooking and sport</li> <li>○ One-to-one or small group support from VS inclusion officers – activities such as fishing, gardening, pottery, museum visits</li> </ul>
Focus identified as behaviour, social and emotional understanding or peer relationships.	<ul style="list-style-type: none"> <li>○ Positive Chances scheme delivered in partnership with a community trust – outdoor and adventurous activities, one-to-one support, family days, emotional health groups (one VS)</li> </ul>
Mentoring and Caseworker Support	<ul style="list-style-type: none"> <li>○ See previous sections</li> </ul>

**Specific transition support.** Specific support leading up to and during the transition period was frequently evident. The focus of most transition provision also went beyond a narrow view of educational attainment, with an emphasis on building resilience, self-esteem, confidence and peer relationships when approaching the move towards secondary school. In many cases, Virtual Schools were enhancing normal transition arrangements by directly working with the child and fostering more supportive relationships and understanding throughout the microsystems around them, including key staff in primary and secondary schools, carers and social workers. Examples of enhanced transition arrangements included accompanying CLA or carers on school visits to their new schools, nurture sessions, and enhanced transition PEPs. A few Virtual Schools prioritised CLA for Educational Psychologist assessments to ensure Year 7 support would be appropriate, and one VS often accessed their local authority's dedicated quick response child and adolescent mental health service for CLA during transition.

The examples shown in Table 1.3 demonstrate that support could also be individualised; mentors and caseworkers were sometimes employed by the VS to provide a stable, familiar and consistent point of contact during this period of change. Where transition mentors were employed, they could work with the pupil across transition and beyond in some cases, to build relationships and facilitate communication. Specific transition support during school holidays was a distinct form of support provided by a few Virtual Schools, which again had a broader emphasis on the socio-emotional preparation for a new school, and was one form of provision in which the peer microsystem was supported by VS practice.

**Table 1.3*****Examples of transition support***

Enhanced transition arrangements and support	<ul style="list-style-type: none"> <li>○ Accompanying looked-after children or carers on school visits to their new secondary schools</li> <li>○ Organising extra school visits</li> <li>○ Nurture sessions at the secondary school</li> <li>○ Enhanced transition PEPs</li> <li>○ Priority Education Psychologist assessments to ensure Year 7 support would be appropriate if needed</li> <li>○ Accessing the local authority's dedicated quick response CAMHS service for looked-after children – described by one Virtual School</li> </ul>
One-to-one support	<ul style="list-style-type: none"> <li>○ Transition learning mentors – employed by two Virtual Schools</li> <li>○ Intensive use of caseworkers, learning mentors and teaching assistants during the transition period.</li> </ul>
School holiday transition support	<p>Four different Virtual Schools' provisions:</p> <ul style="list-style-type: none"> <li>○ Week long summer school</li> <li>○ Residential transition camp for Year 6 children</li> <li>○ Summer holiday workshops – including trips, workshops on making friends and study skills</li> <li>○ Summer trips and outdoor activities focused on transitioning pupils</li> </ul>

**Raising awareness.** A key element to the Virtual Schools' work was the raising of awareness of the needs of CLA so that they could be better supported within educational settings. The specialist knowledge and expertise of VS staff were viewed as successful contributing factors within this theme. At the microsystemic level, training and close working relationships with foster carers, social workers and other professionals such as Educational Psychologists was very evident. In two local authorities, specific training for teachers and social workers new into profession was also detailed.

However, it was the importance of effective relationships with key staff in schools, particularly Designated Teachers (DTs), which came across most strongly. All maintained schools have a duty to appoint a DT to promote the educational achievement of CLA within their school, and twenty-one Virtual Schools detailed at least one provision specifically provided for DTs, including training, forums, conferences, and network meetings. In England, the running of each school is overseen by a voluntary governing body, and a similar level of support was provided for those governors who had designated responsibility for monitoring the provision for CLA. Where detailed, the focus of training and support for DTs and governors included their statutory responsibilities as well as the broader issues affecting CLA, such as the effects of broken attachments and trauma. Raising awareness of educational issues and statutory responsibilities was also facilitated through support to schools' senior leadership teams and attendance at head teachers' network meetings.

It was within this theme that the exosystemic influence of the Virtual School was apparent. Most Virtual Schools reported close working links with other departments within education such as Education Welfare, Behaviour and Attendance Services, Special Educational Needs and Disability and learning support teams,

Inclusion, and Admissions. The new statutory role of the VSH was also viewed as a facilitator in helping to raise awareness more broadly: ‘It has added leverage to our process and has led to an increase in the number of professional partners taking note of our strategies, messages and recommendations’ (VS10), helping to overcome the fact that the needs of CLA in education are still often seen as a ‘minority issue’ (VS1).

### **Self-Evaluations of Provision**

As noted earlier, respondents were asked whether they felt they provided a good level of support to children looked-after, foster carers and schools around the secondary school transition. Our analyses of the responses indicated that the support provided to foster carers was viewed as being significantly less effective than the support provided to CLA, with ratings of support to schools in between the two.<sup>2</sup>

Reflecting this, participants identified a need to extend the work carried out with those in the microsystems around the child, particularly school staff, foster carers and other professionals. One VS stated, ‘We would like to see those closest to the children be supported and to be given time to do some of this work’ (VS 29). Further development of training opportunities and direct support to these key adults was one identified approach, with a focus on raised awareness of educational issues, including the impact of being in care and attachment issues on learning and transition. Another was to provide more support jointly to foster carers and schools to develop a joined-up approach to transition.

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<sup>2</sup> A one-way repeated measures ANOVA of responses to these questions showed that there was a significant difference in the perceived effectiveness of support provided to the three different groups,  $F(2,56) = 4.12, p = .02$ . Bonferroni post-hoc comparisons showed that the support provided to foster carers was viewed as being significantly less effective than the support provided to CLA (mean difference .31 [.025, .596],  $p = .03$ ). There were no significant differences between perceived support provided to CLA compared to schools, or schools compared to foster carers.

Specialist direct work with young people was viewed as successful and the need to extend or establish individualised support such as direct teaching and mentoring, especially around transitions, was another clear subtheme. This was reflected in comments such as ‘Would like to have sufficient staff to have a mentor to support the transition of every young person transferring’, ‘Routine support for all transition students’, ‘Specific 1:1 support for LAC in transition where needed’ and the ability to ‘offer Y6 to Y7 (mentor) sessions to a wider audience.’ The need to develop or extend mental health provision or Educational Psychology services within the Virtual School, particularly to benefit from this kind of expertise at transition, was an identified gap in provision in some Virtual Schools.

The most frequently reported barrier to service development was staffing, along with related issues of funding, austerity measures and time restrictions. Correspondingly, increasing staff numbers or appointing staff in specific roles, such as mentors or Educational Psychologists, were identified as facilitators to development. Virtual Schools also recognised the importance of raising their own awareness of effective provision through the sharing of good practice and the development of a strong evidence base regarding the efficacy of different interventions. However, achieving these goals was not viewed as straightforward. Inconsistencies in the understanding of relevant issues and instabilities in working relationships were identified as barriers to success while effective partnership and multi-agency working were viewed as key to facilitating effective service delivery. Additionally, participants emphasised improved collaboration across education and social care, better channels of communication between professionals, having a single coherent plan and clearer service level agreements as important facilitators to good practice.

## **Discussion**

This survey has revealed that although enhancing educational opportunities and supporting transition were the strongest themes, the work of Virtual Schools does address many of the broader psychological factors known to affect educational attainment. Support for social and emotional understanding featured strongly, along with a clear focus on deepening the understanding of attachment and trauma in the work undertaken with schools and foster families. Specific support for transition, including mentoring, was evident in the practice of several Virtual Schools. Participants were able to identify significant barriers to achieving effective support for CLA, foster families, and schools, but also pointed to staff resources, awareness-raising, and inter-professional working as key directions for improving services.

### **Direct Interventions**

One of the aims of this study was to evaluate and capture the degree to which Virtual Schools are intervening at different levels around the child during these school transition years. We established that direct work was frequently evident with individual children, often flexibly provided in response to their specific needs and sometimes being identified as funded via Pupil Premium Plus. Casework, tutoring and mentoring were all examples of this level of practice.

Interventions at this level often had a strong focus on educational attainment, such as individual tutoring. However, interventions that address the psychological factors impacting upon educational outcomes such as well-being and relationships – particularly mentoring and caseworker support – were clearly valued by the Virtual Schools. Mentors were identified as particularly relevant during periods of transition or were even being employed solely to focus on this process. The importance of ‘natural’ mentors such as teachers, carers and other adults within the looked-after child’s every



day environment has been well-documented in terms of improving educational achievement (Martin & Jackson, 2002) and psychological outcomes (Ahrens, DuBois, Richardson, Fan & Lozano, 2008; Gilligan, 1999; Greeson & Bowen, 2008), but evaluations of more formal mentoring schemes are limited or have used different mentoring models to those employed by the VS (Geenen et al., 2013; Taussig, Culhane, Garrido, Knudtson & Petrenko, 2012). Given that several Virtual Schools expressed a desire to develop or extend individual transition support, including mentoring, evaluation of such provision would be timely.

### **Developing Supportive Environments**

Many aspects of the work of Virtual Schools across all four themes identified in our analysis can be conceptualised as fostering resilience by enhancing the environments or microsystems around each child. Strategies ranged from enhancing individual transition support through to the embedding of systemic practices at the whole school level, such as the development of attachment-aware schools. Developing supportive environments can be viewed as a form of early intervention that may prevent the need for specialist interventions later and these approaches all place relationships at their centre. Relationships are viewed by many as the most critical protective factor for resilience in young people (e.g. Luthar, 2006) and have been identified as the key factor to successful transitions (Coffey, 2013). In the recent Care Inquiry (2013a) relationships were described as the ‘golden thread’ in children’s lives that should inform all work with CLA. This guiding principle appears to influence much of the work of Virtual Schools as they support education across the transition period and beyond.

Making environments more supportive through a raised awareness of the impact of early attachment disturbances and trauma was a strong theme in services to foster

carers, but particularly to schools. Delivering focused attachment-awareness training to both carers and schools, often in collaboration with other professionals, was the most common way in which this issue was addressed, but a few Virtual Schools were working with private agencies or local universities, to develop Attachment Aware (Rose, 2014) or ‘attachment friendly’ schools (Sunderland University Training, n.d.). These initiatives indicate a commitment to work collaboratively to both develop and implement evidence-based practice across schools in their localities, and is one way in which VS practice is supporting the implementation of best practice guidelines on attachment (NICE, 2015). Especially given concerns that many teachers currently feel ill-prepared to be the ‘front line’ staff dealing with issues such as mental health (Rothi, Leavey & Best, 2008), it is likely that this aspect of Virtual School provision will continue to develop.

Placing social and emotional understanding at the heart of education can benefit educational outcomes, mental health and wellbeing for all pupils if implemented effectively and with consideration of how specific interventions relate to the wider school systems and climate (National Children’s Bureau, 2015; Banerjee, McLaughlin, Cotney, Roberts & Peereboom, 2016). In fact, social and emotional understanding was the most frequently identified focus of service delivery after educational attainment and transition. There is a growing evidence base that children who have experienced maltreatment have distinct difficulties with social and emotional understanding (Luke & Banerjee, 2013), and that deficits in advanced aspects of social understanding can persist into adulthood for individuals who have experienced maltreatment as children (Germine, Dunn, McLaughlin & Smoller, 2015), so the fact that Virtual Schools frequently identify it as a focus area for their services and training to children across the transition years is encouraging.

One possibility is that this work can be fruitfully integrated with strategies involving CLA's peer groups; although explicit references to a focus on peer relationships were infrequent, some Virtual Schools did identify relevant peer group contexts for interventions such as small group activities or nurture groups. Given the strong connection between peer attachments, school connectedness and increased pro-social behaviours (Oldfield, Humphrey & Hebron, 2016; Wentzel, 1998), which in turn are linked to better academic achievement (Wentzel, 1993; Miles & Stipek, 2006), this may be a particularly important aspect of creating a supportive environment for CLA, particularly across transition periods as new peer relationships are established.

### **Inter-Professional Working Relationships**

Given the acknowledged importance of inter-professional working for achieving positive outcomes (NICE, 2010; NICE, 2015), it is encouraging that this was strongly evident in VS practice. Without exception, the work of all Virtual Schools is carried out within the context of close working relationships with other services and professionals, particularly those working within education and social care, but also health professionals within Child and Adolescent Mental Health Service (CAMHS) or specialist interdisciplinary services in some local authorities.

The degree to which Virtual Schools worked with other professionals was linked to the focus area of the provision. For example, where mental health was identified as a focus of service delivery or training, it was generally supported through working relationships with other professionals, sometimes employed directly by the VS, such as a primary mental health worker. A positive view of Educational Psychologists on the teams, as well as an expressed desire by some to extend educational psychology and mental health provision, highlights the fact that some Virtual Schools view this as an

aspect of work that can be developed given the right funding, professional support and working relationships.

The frequency with which Virtual Schools provided training, forums and resources specifically to support Designated Teachers and governors provides evidence for the central importance of these inter-professional working relationships. The significant role of schools and teachers in terms of supporting resilient outcomes has been established in social work and educational psychology literature, and schools have been identified as providing the daily context within which young people can form positive relationships with caring and competent people (e.g., Dent & Cameron, 2003; Gilligan, 1998). Such relationships have the potential to promote positive development, and support the development of self-regulation, self-esteem and self-efficacy, emphasising the important role schools have to play when resilience is viewed as not only reducing risk but also increasing resources and fostering protective systems (Masten, 2001, 2007). From the findings of this survey the DT appears to play a crucial role in supporting resilient outcomes as the key link between the VS and the everyday educational environments of most CLA. Initially established to drive forward the commitment to increasing the educational attainment of children looked-after (Department for Education and Employment & Department of Health [DoH], 2000) and placed on a statutory footing following the Children and Young Person's Act (2008), there is currently very little research into DTs or their working relationship with VSHs. One study, focused on joint working to support students at the end of secondary school, found that provision and experience varied greatly within a small sample (Driscoll 2013). Further research into how best to consolidate and ensure consistency in these relationships, especially as children transition between schools, is required.

## **Limitations and Directions for Further Research**

Although this study represents the largest survey of VS provision to date, we acknowledge it is still based on the responses of twenty-nine Virtual Schools, representing approximately 20% of the total number across English local authorities. Given the variety of provision, working roles and service structures evident across these Virtual Schools, we cannot necessarily view them as representative of provision across the country. However, the diversity evident within the achieved sample has helped to highlight the breadth of provision across a varied sample of Virtual Schools of different sizes and geographical locations. As such it provides a valuable snapshot of evolving provision in the context of local priorities, that broadly reflects the current priorities of the National Association of Virtual School Headteachers.

Our analyses also revealed that while most Virtual Schools felt they provided a good level of support to schools and CLA across the transition years, they were less satisfied with the support they were currently providing to foster families. The importance of the quality of the ‘ordinary care’ provided by the foster carer placement and the impact of interventions focused on those around the child to supporting wellbeing and stable outcomes has been emphasised (Luke, Sinclair, Woolgar & Sebba, 2014). Further identification of barriers to supporting foster carers, specifically in the domain of education, would be valuable, including ways to improve a ‘joined up’ approach to transition between schools and placement. The fact that the need for improved communication, more consistency and clearer service level agreements were mentioned as barriers to effective provision, further indicates that improvements at this mesosystemic level would be beneficial for CLA, schools and carers. Similar barriers have been identified in a recent best practice report in cross-departmental working practices to support children and young people (Byrne, Maguire & Lundy, 2015) and a

systematic review of interagency collaboration in young people's mental health (Cooper, Evans & Pybis, 2016).

Finally, we acknowledge that this study analyses one country's strategy of the role of a statutory Virtual School Head to support the educational under-attainment of children looked-after. However, comparable educational under-attainment has been identified as an issue in many other countries as well (Dill, Flynn, Hollingshead & Fernandes, 2012), as have issues of mental health and well-being, including in other areas of the UK such as Northern Ireland (McSherry et al., 2015) and Wales (Bazalgette, Rahilly & Trevelyan, 2015b). It would be of interest to compare the role of the Virtual School Headteacher and the approaches taken by Virtual Schools identified in this paper, with other models of support in different countries and other parts of the United Kingdom.

## **Conclusions**

Virtual Schools are working proactively at multiple levels around the child to address the factors affecting educational outcomes of children looked-after. Virtual Schools provide direct support, while also supporting resilient outcomes through close inter-professional working relationships and the development of supportive environments. Much of their work goes beyond a narrow focus on raising attainment, to support many of the underlying psychological issues such as attachment, social and emotional understanding, relationships and well-being. This review highlights that Virtual Schools are still in a period of development and change, affected by local and national priorities and legislation. Further research into the ways these changes are impacting upon how they support wellbeing and education is needed, alongside rigorous research into what interventions work best to guide VSHs as they make decisions about how best to support the children in their care.

## **Paper 2**

**Longitudinal associations between social activities, relational support  
mental health and well-being in early adolescence**

### **Abstract**

The transition period from primary to secondary school can be a challenging time, with a documented increase in mental health problems in the early secondary school years. This study explored how everyday social activities and relationship quality with adults and peers predicted changes in wellbeing and mental health across these transition years. A longitudinal, cross-lagged design was used to try and identify risk and protective factors for changes in mental health and wellbeing. In total, 484 young adolescents (10-to-13 year olds) completed measures of social activities, relationship quality with peers and adults, self-concept including self-esteem and self-efficacy, and mental health problems and positive well-being. The measures were completed at two time points six months apart and structural equation modelling techniques were used. Models of Time 1 data showed that higher levels of social activity predicted better well-being and lower mental health problems via sense of support from peers and adults and higher self-esteem and self-efficacy. Relationships with peers also had direct effects on wellbeing and mental health. Longitudinal analyses revealed that peer relationship variables, particularly positive best friendship and loneliness, have complex bidirectional relationships with social activities and self-concept that are suggestive of cascading effects. Moreover, this study establishes that the pathways to mental health problems and well-being are distinct in young adolescents. We discuss how everyday peer interactions and the quality of peer relationships are strong predictors of psychological adjustment, over and above adult support.



## **Introduction**

The period of early adolescence is a time characterised by many changes: physical, emotional, cognitive, sense of self and identity, academic expectations and relationships (Inchley et al., 2016). The peer context becomes more salient, with increasing importance placed on intimate close friendships, the opinions and emotional support of peers, and a need to belong within the wider peer group (Buhrmester, 1990; Brechwald & Prinsetein, 2011; Brown & Larson, 2009; Oberle, Schonert-Reichl & Zumbo, 2011). It is also the time when children in England transition from primary to secondary school. This can bring exciting new opportunities, but also concerns and anxieties (Coffey, 2013; Rice, Frederickson & Seymour, 2011), and has been identified as a critical time for interventions to improve attainment and psychological functioning (Riglin, Frederickson, Shelton & Rice, 2013).

However, we know little about how relational support in the peer context, particularly close friendships, classmate support and feelings of loneliness may uniquely predict changes in self-concept and mental health during these years, or whether and to what extent social activities are associated with relationship quality. In the present longitudinal study we sought to identify how relationships and social activities within the peer microsystem, across these crucial transition years, predict both mental health problems and positive well-being outcomes over and above sense of support from parents and other adults.

Although most adolescents report reasonably good levels of wellbeing and mental health there is a decline between the ages of 11 and 15 (Black & Martin, 2015; Inchley et al., 2016). Adolescence and early adulthood also represent the period of highest risk for the onset of mental health problems, with most of the commonly occurring mood, anxiety, psychotic disorders and substance abuse emerging during this

time (de Girolamo, Dagani, Purcell, Cocchi & McGorry, 2012; Kessler et al., 2007). Improved recognition of risk factors and incipient symptoms is important as these early-onset mental health problems often persist into adulthood (Lambert et al., 2013), but it is equally important to capture the factors that promote positive mental health or wellbeing (Hanlon & Carlisle, 2013). Although well-being is inversely related to mental health problems, it is conceptually distinct: the absence of mental health problems cannot simply be equated to key facets of well-being such as positive affect, life satisfaction, happiness, self-acceptance and sense of purpose, and so the two should be considered separately (Keyes, 2002; Keyes, Dhingra & Simoes, 2010; Suldo & Huebner, 2006; Weich et al., 2011).

Drawing on an Ecological Systems theory of development (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006), this study was designed to reveal how relationships and social activities within different microsystems – particularly the peer group both within and outside the school context, but also the family - may differentially affect wellbeing and mental health problems both concurrently and longitudinally. The importance of fundamental human adaptive systems such as mastery motivation systems, incorporating positive self-perceptions and self-efficacy, alongside attachment systems and sociocultural systems including schools, is also emphasised in the resilience literature (Masten, 2001, 2009). This study therefore focuses on better illuminating how individual level psychological factors, particularly self-esteem and self-efficacy, may mediate the association between relationships and wellbeing and mental health problems. We take account of perceived support from parents and other adults, but argue that capturing the unique effects of social relationships with peers is vital because no single relationship can fulfil all relational needs (Weiss, 1974). We

anticipate that sense of support from classmates, aspects of best friendship, and loneliness in the school setting will all have distinct associations with outcomes.

### **Relationship Quality and Mental Health and Well-being Outcomes**

Support from multiple sources contributes to both higher well-being and fewer mental health problems (Stewart & Suldo, 2011; Suldo & Huebner, 2006), and we acknowledge that parental support is likely to be the most important predictor of outcomes, as relationships with parents and their support remain very significant during the period of early adolescence (Collins & Steinberg, 2006; Bokhorst, Sumter & Westenberg, 2009). Relationships with parents are highly correlated with happiness (Goswami, 2012) and influence adolescents' relationships with others including peers (Mounts, 2004). In studies that have compared different sources of social support it is the level of parental or family support that is most consistently associated with depression (Gariépy, Honkaniemi & Quesnel-Vallee, 2016), emotional problems (Helsen, Vollebergh & Meeus, 2000), internalising and externalising symptoms (Stewart & Suldo, 2011) and successful school transitions (Isakson & Jarvis, 1999; Waters, Lester & Cross, 2014).

Despite the acknowledged importance of parental support, we anticipate that peer relationships will contribute in distinct ways to mental health problems and wellbeing, particularly as sense of support from teachers (Bokhorst et al., 2009) and family (Inchley et al., 2016) decreases with age. Distinguishing between positive and negative aspects of close friendships, and comparing both to wider peer group support are an important feature of this research. This builds on both theoretical and empirical evidence of the importance of considering the distinct associations of different types of peer relationships (see Brechwald & Prinstein, 2011; Rubin et al., 2015), and the

importance of the integration of both wider peer support and friendships into research studies (Gifford-Smith & Brownell, 2003).

Peer acceptance or rejection by the peer group, generally measured at the whole class level, is strongly related to psychological adjustment (Bierman, 2004; Rubin, Bukowski & Parker, 2006) and related to more specific outcomes such as belongingness (Bukowski, Hoza & Boivin, 1993) and school adjustment and aspiration levels (Bagwell, Newcombe & Bukowski, 1998). Sense of support from classmates also has distinct associations with life satisfaction (Suldo & Huebner, 2006) and unique associations with reductions in risky behaviour (Tomé, Gaspar, Matos, Camacho & Simões, 2014), and internalising problems (Stewart & Suldo, 2011). One consequence of a lack of peer acceptance or support can be loneliness, which is strongly associated with peer rejection across many different contexts (Asher & Paquette, 2003).

Loneliness may be related to insufficient support, but it is a subjective experience which may arise when we perceive ourselves to be socially isolated (Laursen & Hartl, 2013) or there is a discrepancy between the relationships that we want to have and our perceptions of those we currently have (Peplau & Perlman, 1982). Consequently, one may have a range of relationships but still feel lonely, and so this study aims to identify how feelings of loneliness are related to psychological adjustment even when accounting for sense of support from others such as classmates. Early adolescence appears to be a time when loneliness can peak (Heinrich & Gullone, 2006; Qualter et al., 2013) and it is related to low self-worth (Qualter & Munn, 2002) and poorer social, emotional and behavioural outcomes in adolescence (Schinka, van Dulmen, Mata, Bossarte & Swahn, 2013; Qualter et al., 2013; Vanhalst, Klimstra, Luyckx, Scholte, Engels & Goossens, 2012; Vanhalst, Luyckx, van Petegem & Soenes, 2017),

particularly in those young people for whom loneliness trajectories are stable and high (Qualter et al., 2013; Vanhalst et al., 2017).

Distinct from broader peer support, high quality close or best friendships become particularly important in early adolescence (Hartup & Stevens, 1997), as adolescents begin to differentiate more between different levels of closeness to friends (Berndt, 1996) and intimacy becomes a more important feature of friendships (Bukowski & Kramer, 1986; Rubin, Bukowski & Parker, 2006). Friends can become attachment figures alongside the primary parental attachment figure (Laible, Carlo & Raffaelli, 2000; Nelis & Raie, 2009), and can influence adjustment beyond general peer and parental attachment (Wilkinson, 2010) and peer acceptance (Malcolm, Jensen-Campbell, Rex-Lear & Waldrip, 2006; Parker & Asher, 1993). Friendships high in positive features – affection, intimacy, companionship, help, security and enjoyment – are more stable over time and associated with fewer behavioural problems and higher global self-worth (Hiatt, Laursen, Mooney & Rubin, 2015), fewer internalising problems (Rubin, Dwyer, Kim & Burgess, 2004), better adjustment including life satisfaction, happiness and self-esteem (Demir & Urberg, 2004; Goswami, 2012; Raboteag-Saric & Sakic, 2014; Tomé et al., 2014), and greater engagement with secondary school (Gutman & Vorhaus, 2012). Conversely, the absence of friendship has been associated with depression and low self-worth in adulthood (Bagwell et al., 1998).

Measuring the negative aspects of best friendship such as conflict, jealousy and antagonism is also important since friendships high in negative features are associated with higher reports of internalising and externalising problems (Burk & Laursen, 2005), higher social anxiety and depression (La Greca & Harrison, 2005) and decreased wellbeing and adjustment which may persist into adulthood (Bukowski, Buhrmester & Underwood, 2011). It is important to emphasise, however, that negative and positive

aspects of close friendship do not just cancel each other out by having equal but inverse effects on outcomes, and so may affect outcomes in distinct ways. Some research has found no effects of negative features on adjustment (Demir & Urberg, 2004), or that the inverse effects are weaker than positive friendship features, for example on happiness (Goswami, 2012), while others find smaller effects of positive features (e.g. Burk & Laursen, 2005) or that positive features may protect against some outcomes associated with negative friendship such as social anxiety, but not others such as depression (La Greca & Harrison, 2005).

### **Mediating Effects of Self-esteem and Self-efficacy**

It is anticipated that the associations between relational support and mental health problems and wellbeing will be mediated by two aspects of self-concept: global self-esteem and self-efficacy. Self-esteem has been conceptualised as an individual's self-evaluation of their worth as a person (Rosenberg, 1965), while self-efficacy is defined as an individual's beliefs in their capacity to influence outcomes and manage problems; in other words, it is a belief about the extent to which they have the capacity to control events that impact on their lives (see Bandura, 1997).

Theoretical perspectives emphasise the importance of social relationships for the development of both these aspects of self-concept. The sociometer theory of self-esteem (Leary & Baumeister, 2000) views self-esteem development as arising from the social acceptance or rejection by those who are important to us, with changes to self-esteem being viewed as a monitor for acceptance and rejection that supports adjustments in behaviour to gain group approval and inclusion. In the opposite direction, self-broadcasting perspectives emphasise that differing levels of self-esteem affect the social cues that we give others, which in turn affect social responses and liking (Srivastava & Beer, 2005). Empirical findings support the importance of social relationships, with

much evidence for associations between self-esteem and peer acceptance (Birkeland, Breivik & Wold, 2014), high quality friendship (Hiatt et al., 2015), secure parental attachment (Laible, Carlo & Roesch, 2004), and supportive relationships with parents and peers (Smokowski, Evans, Cotter & Guo, 2014). There is also strong longitudinal support for the association between self-esteem and mental health problems such as depression, particularly that low self-esteem contributes to depression rather than depression eroding self-esteem (Gruenenfelder-Steiger, Harris & Fend, 2016; Sowislo & Orth, 2013; Steiger, Allemand, Robins & Fend, 2014).

Self-efficacy is also strongly influenced not only by personal factors, but also social and contextual variables (Bandura, 1997). The importance of peers is especially salient in adolescence when they provide a key context within which individuals judge their own abilities and hence self-efficacy (see Schunk & Meece, 2006). Despite this, there has been less focus on the relationship between peer support and self-efficacy compared to self-esteem, although one study found that teachers, peers and parents made distinct contributions to students' academic self-efficacy beliefs (Jiang, Song, Lee & Bong, 2014). To our knowledge, only one cross-sectional study with adolescents has looked at parent and peer relationship variables as predictors of both self-esteem and self-efficacy. This found that peer variables – for example, comparison with peers – was especially important for self-efficacy, but that parental variables such as parental warmth and trust, were especially important for self-esteem (Macek & Jezek, 2007). Self-efficacy is also both theoretically and empirically related to thoughts, feelings and motivation, with low self-efficacy being related to stress, depression and mental health problems (Bandura 1997; Kim 2003) and higher self-efficacy related to positive thinking and happiness (Caprara, Steca, Gerbino, Paciello & Vecchio, 2006). Although a few studies have tested either self-esteem or self-efficacy as a mediator between social

support and adjustment (Vieno, Santinello, Pastore & Perkins 2007) and school wellbeing (Tian, Liu, Huang & Huebner 2013), we are not aware of any studies that have looked at the effect of these mediators before in relation to multiple relationships with this age group, either in cross-sectional or longitudinal studies. In one study testing longitudinal effects with similar variables, lower peer acceptance predicted more internalising and externalising symptoms and lower global self-worth two years later, while depressive symptoms and low self-worth also predicted less close friendship support two years later (Klima and Repetti, 2008) showing the possibility of bidirectional effects and the importance of considering dyadic and wider peer relationships.

The associations of self-efficacy and self-esteem with mental health problems and well-being need to be accounted for over and above motivational aspects of self-concept. These include social motivation, such as the tendency to feel a prosocial concern for others, and academic motivation, including sense of achievement at school and perceptions of future usefulness of learning. Although these are not the focus of this paper, they are acknowledged as important aspects in measures of resilience, such as the Student Resilience Survey (Lereya, Humphrey, Patalay, Wolpert, Bohnke, Macdougall, & Deighton 2016; Sun & Stewart, 2007), which measures empathy and ‘goals and aspirations’, a similar measure to our measure of school achievement and engagement, alongside other factors important to resilience including self-esteem and problem solving. Goals and aspirations had significant negative correlations with emotional and behavioural problems and global subjective distress, smaller than correlations for self-esteem and problem solving, but nonetheless significant (Lereya et al, 2016). Although the associations were weaker with empathy in this study, there are indications that prosocial aspects of empathy are important for socio-emotional development (Luke,



2012) and behavioural difficulties in younger children (Deschamps, Schutter, Kenemans & Matthys, 2015) and so we control for them to help elucidate the unique roles played by self-esteem and self-efficacy.

### **Participation in Social Activities**

Finally, this paper identifies participation in social activities as a potential antecedent to relationship quality, and explores the associations between activities with friends compared to more general social activities, encompassing more structured activities with family and friends, including extra-curricular and leisure activities. Participation in leisure activities has been viewed as having the potential to promote wellbeing via fostering a sense of self-efficacy (Bandura, 1977), as well as helping satisfy basic needs for autonomy, relatedness and competence alongside providing meaning and providing opportunities for detachment-relaxation (Deci & Ryan, 2000; Leversen, Danielsen, Birkeland & Samdal, 2012; Newman, Tay & Diener, 2013). Leisure activities can promote resilience (Bradley, Davis, Kaye & Wingo, 2014) and may stimulate positive feelings about the self and provide contexts within which young people can develop supportive interpersonal relationships beyond the family, forming potentially protective broader social and community ties (Eccles, Barber, Stone & Hunt, 2003). Participation in neighbourhood, community and family activities is correlated with self-esteem (Dumont & Provost, 1999), activities with parents or non-parental adults with more positive adjustment (McHale, Crouter & Tucker, 2001), school based extra-curricular activity participation with academic achievement and psychological adjustment including mood, self-concept and self-esteem, (Farb & Matjasko, 2012; Feldman & Matjasko, 2005) and belonging to a group or club with better mental health and well-being (Black & Martin, 2015). There is also some evidence that benefits may occur via the impact on relationships; for example, extra-curricular participation is

related to greater affiliation with prosocial and academic peers (Fredricks & Eccles, 2005, 2006) and both the maintenance and development of new school-based friendships (Schaefer, Simpkins, Sandra, Vest & Price 2011).

In contrast, much research into activities with friends has focused on unsupervised activity - what might be termed ‘hanging out’ – which has been associated with lower school grades and more conduct problems (McHale et al., 2001; Haynie & Osgood, 2005; Persson, Kerr & Stattin, 2007), and poorer wellbeing and mental health particularly as frequency increases or when the age of associates is much older than oneself (Black & Martin, 2015). In contrast, one study with 9-12 year olds found that those who frequently spent time ‘visiting with friends outside of school’ were happier than those who do not (Holder & Coleman, 2008) and seeing friends at least once a week has been associated with better outcomes, whereas seeing them nearly every night is not (Black & Martin, 2015). These findings begin to point to more positive associations of time with peers that, though independent, is still supported and monitored by adults.

### **Present Study**

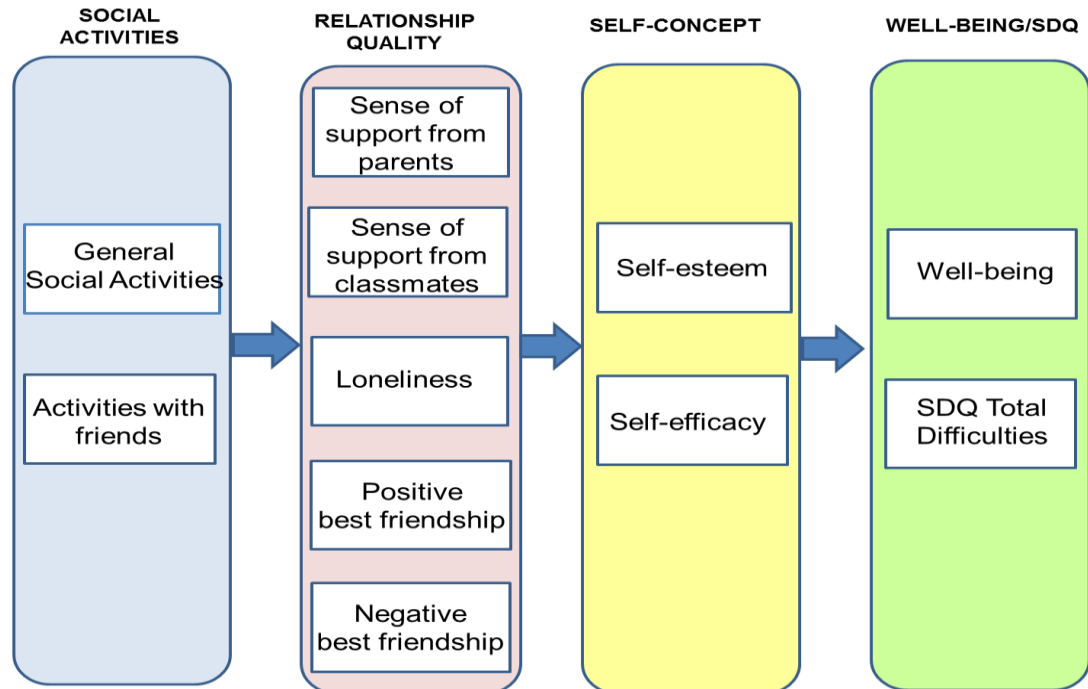
The present longitudinal study, carried out with a large sample of 10 to 13 year olds, allowed us to test the model shown in Figure 2.1. Participants initially completed self-report questionnaires and then did so again at a follow up six months later. Although this represents a relatively short interval between time points, this has been shown in previous studies to be long enough to detect changes in mental health and behaviour in adolescents (e.g. Gamez-Guadix, Orue, Smith & Calvete, 2013). We examined cross-sectional associations between all variables in the model, with a key focus on mediated pathways from both social activities and relationship quality to

mental health problems (SDQ Total Difficulties) and well-being via self-esteem and self-efficacy. In our longitudinal analysis, we examined cross-lagged associations between social activities and relationship quality, relationship quality and self-concept, and self-concept and mental health problems (Strengths and Difficulties Questionnaire (SDQ) Total Difficulties) and well-being.

We expected to find distinct associations between different aspects of social activities, relationships, self-concept and SDQ Total Difficulties and well-being, establishing a fine-grained picture of direct and indirect paths to psychological adjustment. As noted earlier, the key self-concept variables in this study were self-esteem and self-efficacy, but these associations were examined after controlling for social and academic motivation. However, we were particularly interested in longitudinal relationships. Firstly, we hypothesised that better relationship quality would predict improvements in self-concept, that better self-concept would predict decreases in mental health problems and increased wellbeing and that participation in social activities would be key antecedents, predicting changes in relationship quality over time. Although our main predictions are in the direction of the model, we expected some of the associations to be bidirectional in nature, with cross-lagged analysis enabling us to examine such effects.

Moreover, by distinguishing between activities with friends compared to general social activities, and relationships with peers compared to those with adults, this study was designed to identify the effects of peer variables over and above parental and other adult influences. We also aimed to identify the effects of close dyadic peer relationships, both positive and negative aspects, over and above loneliness and peer support at the class level and to evaluate distinct effects on self-efficacy and self-

esteem, as well as better understanding the differential effects of these self-concept variables on outcomes.



*Figure 2.1.* Model of the associations between variables measuring social activities, relationships, self-concept and well-being and mental health (SDQ Total Difficulties). Additional variables of Adult Support, Empathy and School Sense of Achievement and Engagement were included as control variables.

## Method

### Participants

Participants were recruited from two mixed-gender urban junior schools and a mixed-gender urban comprehensive secondary school. The schools were located in the South East in areas with mixed socioeconomic backgrounds. All schools were larger than the national average and the majority of children in all three schools were White British. All had lower than average percentages of pupils with English as a second language, special educational needs and entitlement to free school meals. At Time 1 (T1), 555 children participated (258 males and 294 females, 3 gender unrecorded) in

Year 6 (10 -11 years; n= 92 male, 95 female), in Year 7 (11-12 years; n = 80 male, 100 female, 1 gender unrecorded) and Year 8 (n = 86 male, 99 female, 2 gender unrecorded). At Time 2 (T2) any pupils who had been absent at T1 were excluded from the analysis. Seventy-one children who had completed at T1 did not complete at T2, either due to absence or because they could not be reliably matched; in total 484 children participated at T2 (226 males and 258 females) in Year 6 (n = 80 male, 86 female), Year 7 (n = 73 male, 85 female) and Year 8 (n = 73 male, 87 female). The pupils for whom only Time 1 data was available (n = 71) were compared to pupils who completed both time points (n = 484) on key variables using independent samples t-tests. There were no significant differences on any of the variables used in this study ( $ps > .05$ ).

## Measures

**Social Activities.** A range of items to measure social activities were developed for this study (See Appendix B). The first five items asked children how often they took part in general every-day activities (e.g. ‘How often do you do things at home together with your parents / carers i.e. watch TV, cook, play games?’ and ‘How often do you have a friend round to your house?’) These items were measured on a five-point likert scale from every day (1) to less than once a month (5). A further five items asked children whether they had taken part in a series of activities during the last three months (i.e. ‘Been swimming/skating/cycling/bowling or some other group sporting activity’) on a three point scale ‘Yes’, ‘No’, ‘Not sure’. Two further items asked about participation in extra-curricular activities and the frequency of meeting up with friends in school holidays. Because these items used different scales, proportional scores were calculated to enable comparability, with scores then ranging from 0 to 1. A preliminary principal components analysis revealed two factors. Four items loaded onto Factor 1

termed ‘Activities with Friends’: having a sleepover, having a friend round to their house, going to a friend’s house, meeting with friends in school holidays (Time 1  $\alpha = .76$ ) and five items onto Factor 2 termed ‘General Social Activities’: doing things together at home with family, talking to parent/carer, frequency of clubs and extra-curricular activities; going to a park or for picnic with others; going on trips with others such as cinema, theatre, zoo etc. ( $\alpha = .52$ ). Alpha was relatively low for this scale but item-total correlations were satisfactory and removing any of these items would not have improved the reliability.

### **Relationship Quality.**

***Best Friendship.*** The Best Friend Index (Kouwenberg, Rieffe & Banerjee, 2013 – see Appendix C) was used to assess positive and negative features of close friendship. The scale asks children to rate qualities of their relationships with their best friend. It has nine items referring to positive aspects of friendship such as companionship, disclosure, support, and affection/admiration (e.g., “My friend and I do enjoyable things together”) ( $\alpha = .86$ ) and nine items measuring negative features such as conflict, dominance, jealousy, and betrayal (e.g., “My friend says mean things about me to others”) ( $\alpha = .80$ ). Items are measured on a five-point scale ranging from ‘never’ (1) to ‘very often’ (5).

***Loneliness.*** The Loneliness Questionnaire – Short Version (Ebesutani, Drescher, Reise, Heiden, Hight, Damon & Young, 2012 – See Appendix D) was used to measure loneliness, particularly in the classroom setting. A shortened version of the original Loneliness Questionnaire (Asher, Hymel & Renshaw 1984), it uses only the 9 non-reverse coded items (e.g., “I don’t have anyone to play with at school”; “I am lonely at school”) and a three-point likert scale ranging from ‘not true at all’ (2) to ‘always true’

(3) ( $\alpha = .85$ ). Five positive filler items were included (e.g., “I like school”), but were not included in the analysis.

***Parental and Classmate Support.*** Perceptions of social support from parents and classmates were measured using the Parent and Classmate sub-scales of the Children and Adolescents Social Support Scale (CASSS; Malecki, Demaray, Elliott & Nolten, 1999 – see Appendix E). The Parent Subscale consists of twelve items that all begin “My parent(s) or adult(s) I live with...” followed by a statement, with three items each measuring emotional support (e.g., ‘...show they are proud of me’; informational support (e.g., ‘...make suggestions when I don’t know what to do’; appraisal support (e.g., ‘...tell me I did a good job when I do something well’ and instrumental support (e.g., ‘...help me practice my activities’) ( $\alpha = .95$ ). Items are measured on a six-point likert scale ranging from ‘never’ (1) to ‘always’ (6). The Classmate Subscale measures the same four types of support on the same scale, but with items adapted to peers in the school setting ( $\alpha = .96$ ).

***Adult support.*** This four item scale was developed for this study to measure sense of support and engagement with adults (e.g., “There is at least one teacher or other adult in school who I can talk to if I have a problem”; “There is at least one adult in my life who cares about my feelings”). Items are measured on a five point likert scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (5) ( $\alpha = .59$ ). See Appendix F.

### **Self-Concept.**

***Self-esteem and self-efficacy.*** A four item adapted version of Harter's (1988) Self-Perception Profile for Adolescents (SPPA) was used to measure self-esteem (e.g., ‘I like the kind of person I am’). A simple four-point likert scale from ‘not at all true’ (1) to ‘very true’ (4) replaced the original rating scale because it has better reliability

and validity (Wichstrom 1995) ( $\alpha = .80$ ) See Appendix G. In addition, a shortened six-item form of the General Self-Efficacy scale (Schwarzer & Jerusalem, 1995 – see Appendix H) was used (e.g., ‘I can solve most problems if I put in the necessary effort’). Items were measured on a four point scale from ‘not at all true’ (1) to ‘very true’ (4) ( $\alpha = .83$ )

***Academic and social motivation.*** A three-item measure designed for this study was used to measure academic motivation, referred to in this paper as ***Sense of School Achievement and Engagement*** – see Appendix I. The three items were ‘I feel that the things I am learning at school will be useful when I am older’, ‘I try to do my best work at school’ and ‘I achieve my goals or targets at school’ and were measured on a five-point likert scale from ‘never’ (1) to ‘always’ (5). ( $\alpha = .67$ ). The prosocial tendency subscale of the ***Empathy Questionnaire*** (Pouw, Rieffe, Oosterveld, Huskens & Stockmann, 2013 – see Appendix J) was used to measure social motivation (i.e. ‘When one of my friends is upset, I want to comfort him or her’). Items were measured on a three-point likert scale from ‘not true’ (1) to ‘often true’ (3).

### **Mental Health Problems and Well-being.**

***SDQ Total Difficulties.*** The self-report version of the Strengths and Difficulties Questionnaire (Goodman, Meltzer & Bailey, 1998 – see Appendix K) was used as a screening measure of mental health problems. This 25 item measure produces five subscales: emotional symptoms (e.g., ‘I am often unhappy, downhearted or tearful’), conduct problems (e.g., ‘I get very angry and often lose my temper’), hyperactivity / inattention (e.g., ‘I am constantly fidgeting or squirming’), peer relationship problems (e.g., ‘Other children or young people pick on me or bully me’) and prosocial behaviour (e.g., ‘I am kind to younger children’) all measured on a three-point likert scale from



‘not true’ (1) to ‘certainly true’ (3). The first four scales combine to form a Total Difficulties score that was used in this study. ( $\alpha = .82$ )

**Well-being.** The Short Warwick-Edinburgh Mental Wellbeing Scale (Stewart-Brown et al., 2009 – see Appendix L) is a seven item measure that predominantly measures psychological and eudaimonic aspects of well-being (e.g., ‘I’ve been feeling optimistic about the future’; ‘I’ve been dealing with problems well’). Items are measured on a five-point likert scale from ‘never’ (1) to ‘all the time’ (5). ( $\alpha = .83$ )

## Procedure

Ethical approval for this study was granted by the University of Sussex. Schools were recruited via email followed by face to face meetings with a senior member of staff to provide further information about the study. Head teachers provided consent for the research to take place in their schools, and all parents and carers of children in the targeted age groups received an information sheet two weeks prior to the first phase of data collection and an opt out form. Twelve parents chose for their child to opt out of the research project. Parents were informed again before the second phase of data collection and reminded of their right to opt out but no further parents chose to opt their child out at this phase. The first phase of data collection took place between January and March 2016 and the second phase took place in July 2016.

In the two junior schools, researchers administered the questionnaires to each class of children with class teachers also present. In the secondary school the questionnaires were administered by class teachers. All questions were read aloud to the primary school children, but secondary school pupils read the questionnaires themselves, with extra adult support provided for some pupils. Detailed briefing sheets were provided to ensure that the correct procedure was followed across schools.

Children were reminded of their right to opt out before beginning the questionnaires and only completed the questionnaires after giving their assent. At both time points children completed the same questionnaires measuring social activities, relationships with adults and peers, self-concept variables such as self-esteem, self-efficacy, prosocial empathy, and sense of school achievement and engagement, and mental health problems (SDQ Total Difficulties) and well-being. Following completion of the questionnaires pupils were debriefed and provided with printed information sheets regarding sources of support to take home.

## **Results**

Table 2.1 shows descriptive statistics for all variables in the analysis at both time points. Correlations between variables at Time 1 are shown in Table 2.2, and correlations between Time 1 and Time 2 variables are shown in Table 2.3. These reveal numerous correlations within and across time points between the different variables measuring social activities, relationship quality, self-esteem and self-efficacy, and well-being and SDQ total difficulties outcomes.

Table 2.1

*Means and standard deviations of variables at Time 1 (T1) and Time 2 (T2)*

Variables	Possible Range	Mean (SD)
T1 General Social Activities	0 - 1	.78 (.19)
T1 Activities with friends	0 - 1	.53 (.27)
T1 Sense of support from parents	1 - 6	4.94 (1.02)
T1 Sense of support from classmates	1 - 6	4.11 (1.15)
T1 Sense of adult support	1 - 5	4.21 (.65)
T1 Loneliness	1 - 3	1.35 (.37)
T1 Best friend index positive	1 - 5	4.06 (.68)
T1 Best friend index negative	1 - 5	1.70 (.58)
T1 Self-esteem	1 - 4	3.23 (.65)
T1 Self-efficacy	1 - 4	2.95 (.58)
T1 Sense of school achievement/engagement	1 - 5	3.89 (.65)
T1 Wellbeing	1 - 5	3.61 (.72)
T1 SDQ Total Difficulties	1 - 3	1.60 (.31)
T2 General Social Activities	0 - 1	.81 (.18)
T2 Activities with friends	0 - 1	.56 (.26)
T2 Sense of support from parents	1 - 6	4.87 (1.01)
T2 Sense of support from classmates	1 - 6	4.09 (1.10)
T2 Sense of adult support	1 - 5	4.24 (.62)
T2 Loneliness	1 - 3	1.32 (.36)
T2 Best friend index positive	1 - 5	4.09 (.67)
T2 Best friend index negative	1 - 5	1.65 (.53)
T2 Self-esteem	1 - 4	3.26 (.65)
T2 Self-efficacy	1 - 4	2.98 (.57)
T2 Sense of school achievement/engagement	1 - 5	3.84 (.59)
T2 Wellbeing	1 - 5	3.58 (.71)
T2 SDQ Total Difficulties	1 - 3	1.60 (.30)

*Note: N's ranged from 437 – 552*

Table 2.2  
Zero order correlations between variables at Time 1

	1	2	3	4	5	6	7	8	9	10	11	12	13
1.General social activities	-	.29***	.36***	.32***	.41***	-.24***	.19***	-.15***	.39***	.36***	.26***	.38***	-.32***
2. Activities with friends		-	.05	.24***	.09*	-.24***	.22***	-.05	.13**	.10*	-.03	.16***	-.11**
3. Sense of parental support			-	.57***	.58***	-.35***	.38***	-.37***	.56***	.49***	.44***	.55***	-.46***
4. Sense of classmate support				-	.46***	-.59***	.47***	-.32***	.54***	.50***	.43***	.60***	-.51***
5. Adult support					-	-.41***	.40***	-.26***	.46***	.43***	.45***	.48***	-.40***
6. Loneliness						-	-.43***	.35***	-.48***	-.34***	-.22***	-.49***	.60***
7. Positive best friendship							-	-.49***	.26***	.36***	.35***	.46***	-.36***
8. Negative best friendship								-	-.31***	-.26***	-.26***	-.33***	.46***
9. Self-esteem									-	.58***	.40***	.67***	-.60***
10. Self- efficacy										-	.51***	.65***	-.52***
11. School Achieve /engagement											-	.50***	-.43***
12. Wellbeing												-	-.58***
13. SDQ Total Difficulties													-

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

Table 2.3

*Zero order correlations between variables at Time 1 (T1) and Time 2 (T2)*

	TIME 2												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1. General activities	<b>.55***</b>	.23***	.30***	.27***	.27***	-.25***	.18***	-.11*	.29***	.32***	.24***	.27***	-.30***
2. Activities friends	.34***	<b>.69***</b>	.17***	.22***	.09*	-.26***	.21***	-.00	.18***	.11*	-.02	.11*	-.17***
3. Parental support	.35***	.10*	<b>.70***</b>	.40***	.46***	-.35***	.31***	-.27***	.43***	.38***	.42***	.45***	-.44***
4. Classmate support	.35***	.25***	.42***	<b>.68***</b>	.40***	-.55***	.40***	-.27***	.44***	.36***	.33***	.53***	-.50***
5. Adult support	.34***	.07	.40***	.29***	<b>.57***</b>	-.36***	.22***	-.17***	.46***	.36***	.34***	.38***	-.38***
6. Loneliness	-.33***	-.26***	-.31***	-.48***	-.30***	<b>.62***</b>	-.25***	.18***	-.40***	-.29***	-.21***	-.39***	.48***
TIME 1 7. +ve best friendship	.21***	.27***	.24***	.31***	.23***	-.31***	<b>.52***</b>	-.31***	.19***	.32***	.26***	.34**	-.31***
8. -ve best friendship	-.17***	-.13**	-.26***	-.26***	-.16***	.28***	-.23***	<b>.48***</b>	-.20***	-.22***	-.16***	-.27***	.37***
9. Self-Esteem	.40***	.16***	.44***	.44***	.36***	-.44***	.17***	-.16***	<b>.68***</b>	.45***	.37***	.59***	-.56***
10. Self-Efficacy	.39***	.13**	.37***	.38***	.35***	-.37***	.26***	-.24***	.46***	<b>.59***</b>	.45***	.53***	-.51***
11. Sch Achieve/Engage	.22***	.06	.25***	.26***	.32***	-.17***	.22***	-.22***	.25***	.34***	<b>.57***</b>	.36***	-.37***
12. Well-being	.38***	.17***	.42***	.47***	.39***	-.44***	.28***	-.22***	.52***	.45***	.38***	<b>.63***</b>	-.53***
13. SDQ Total Difficulties	-.33***	-.21***	-.42***	-.45***	-.30***	.62***	-.19***	.28***	-.50***	-.47***	-.42***	-.52***	<b>.78***</b>

 $p < .05^*$   $p < .01^{**}$   $p < .001^{***}$

### **Time 1 Modelling of Indirect Pathways**

In our first analysis, we used structural equation modelling to examine the associations among the variables from Time 1. Year group (age) and gender were controlled for in our analyses, predicting all variables at this time point. We began by testing a latent variable model with four latent variables with a number of measures specified as indicators for each one: Social Activities (Activities with Friends; General Social Activities); Relationship Quality (Sense of Parent Support, Sense of Classmate Support, Loneliness, Positive Best Friendship, Negative Best Friendship, with Adult Support as a control variable); Self-Concept (Self-esteem and Self-efficacy, with Empathy and Sense of School Achievement and Engagement as control variables); and Mental Health Outcomes (SDQ Total Difficulties and Well-being). However, this model had poor overall model fit:  $\chi^2(87) = 668.61, p < .001$ ; RMSEA = 0.11, CFI = 0.83; SRMR = 0.06. The modification indices revealed 20 additional paths between specific indicators over and above the associations between the latent variables. This was consistent with our expectations that a more granular approach would be needed to capture distinct associations between different aspects of social activities, relationships, self-concept and mental health. Rather than using latent variables we therefore moved onto a path analysis with all the observed variables.

We used the following absolute fit indices: the chi-square; the root-mean-square error of approximation (RMSEA), the comparative fit index (CFI), and the standardized root-mean-square residual (SRMR). The chi square should ideally be non-significant in a good model; for the RMSEA, values below .05 indicate a very good fit (Steiger, 1990), for CFI values above .95/.96 indicate good fit (Bentler, 1990) and for SRMR values below .08 indicate good fit (Hugh & Bentler, 1999).

We began with the conceptual model discussed in the introduction, including all paths between activities and relationship variables, between relationship and self-concept variables and between self-concept and well-being/SDQ variables. We also allowed variables within each conceptual section of our model (social activities; relationship quality; self-concept; wellbeing/SDQ Total difficulties) to co-vary. Direct paths between variables measuring social activities and variables measuring self-concept or well-being/SDQ, or between variables measuring relationship quality and well-being/SDQ, were only added in if indicated by modification indices. Non-significant paths ( $ps > .05$ ) were trimmed from the model. The final model had very good overall model fit:  $\chi^2 (38) = 33.68, p = 0.67$ ; RMSEA = 0.00, CFI = 1.00; SRMR = 0.02. The full set of path coefficients for this model are shown in Table 2.4.

Table 2.4

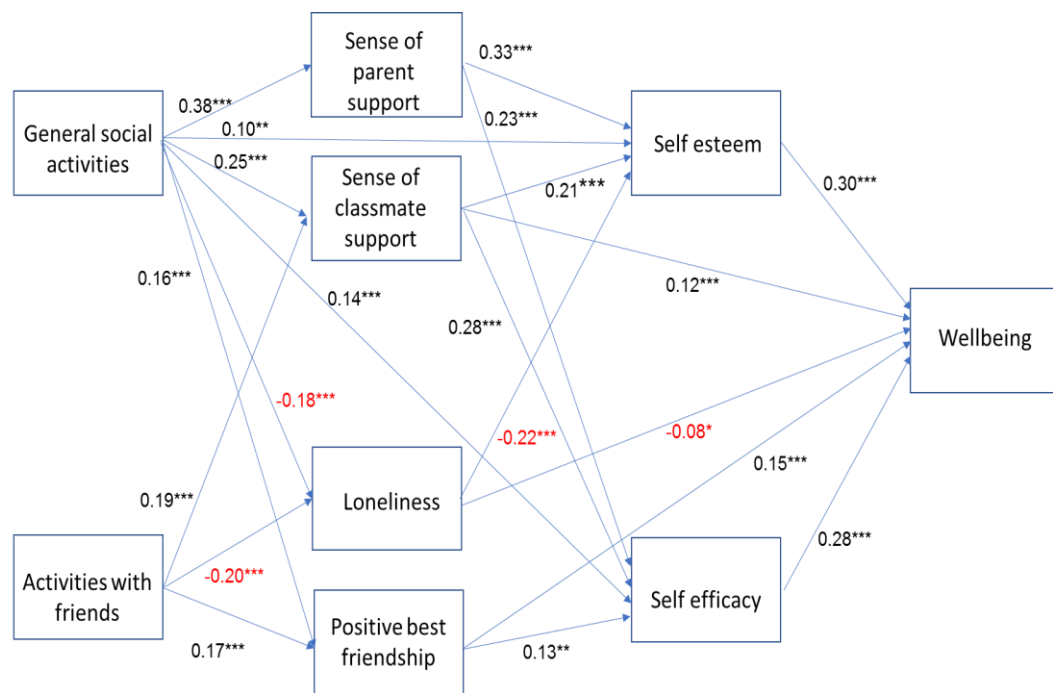
*Unstandardised and standardised coefficients for the Time 1 model*

<i>Parameter Estimate</i>	<i>Unstandardized coefficients (standard error)</i>	<i>Standardized coefficients (standard error)</i>	<i>p value</i>
Wellbeing on			
Self Esteem	.33 (.04)	.30 (.04)	<.0001
Self-efficacy	.34 (.05)	.28 (.04)	<.0001
Sense of school achievement	.15 (.04)	.13 (.03)	<.0001
Loneliness	-.16 (.07)	-.08 (.03)	.021
Positive best friendship	.16 (.03)	.15 (.03)	<.0001
Sense of support from classmates	.08 (.02)	.12(.04)	<.0001
Mental Health (SDQ) on			
Self esteem	-.12 (.02)	-.25 (.04)	<.0001
Self-efficacy	-.07 (.02)	-.14 (.04)	<.0001
Sense of school achievement	-.07 (.02)	-.15 (.03)	<.0001
Loneliness	.27 (.03)	.33 (.03)	<.0001
Negative best friendship	.10 (.02)	.20 (.03)	<.0001
Self-esteem on			
Sense of support from parents	.21 (.03)	.33 (.04)	<.0001
Sense of support from classmates	.12 (.03)	.21 (.05)	<.0001
Loneliness	-.38 (.07)	-.22 (.04)	<.0001
Positive best friendship	-.09 (.04)	-.09 (.04)	.03
Negative best friendship	-.09 (.04)	-.08 (.04)	.02
General social activities	.33 (.12)	.10 (.04)	.005
Self-efficacy on			
Sense of support from parents	.13 (.03)	.23 (.04)	<.0001
Sense of support from classmates	.14 (.02)	.28 (.05)	<.0001
Positive best friendship	.11 (.04)	.13 (.04)	.002
General social activities	.44 (.11)	.14 (.04)	<.0001
Empathy on			
Sense of support from parents	.04 (.02)	.11 (.05)	.03
Sense of support from classmates	.07 (.02)	.23 (.05)	<.0001
Adult support	.10 (.03)	.19 (.05)	<.0001
Loneliness	.15 (.04)	.16 (.05)	.001
Positive best friendship	.14 (.02)	.26 (.04)	<.0001
Sense of school achievement on			
Sense of support from parents	.10 (.03)	.15 (.05)	.003
Sense of support from classmates	.15 (.03)	.26 (.06)	<.0001
Adult support	.21 (.04)	.21 (.05)	<.0001
Loneliness	.22 (.08)	.13 (.05)	.007
Positive best friendship	.17 (.04)	.18 (.04)	<.0001
Activities with friends	-.28 (.09)	-.12 (.04)	<.0001
Sense of support from parents on			
General social activities	2.03 (.21)	.38 (.04)	<.0001
Sense of support from classmates on			
General social activities	1.52 (.25)	.25 (.04)	<.0001
Activities with friends	.85 (.15)	.19 (.03)	<.0001
Adult support on			
General social activities	1.45 (.13)	.43 (.04)	<.0001
Loneliness on			
General social activities	-.34 (.08)	-.18 (.04)	<.0001
Activities with friends	-.28 (.05)	-.20 (.04)	<.0001
Positive best friendship on			
General social activities	.56 (.15)	.16 (.04)	<.0001
Activities with friends	.45 (.09)	.17 (.04)	<.0001
Negative best friendship on			
General social activities	-.51 (.13)	-.17 (.04)	<.0001



Numerous significant paths consistent with our theoretical predictions were observed. Our key focus was on a number of specific indirect (mediated) pathways. We used 1,000 bootstrap samples so that confidence intervals could be estimated. For these analyses, we accounted for the direct effects of the initial variable on the outcome variable even if they had been non-significant. The full tables of all possible indirect pathways to well-being and to SDQ are provided in supplementary information in Tables S2.1 and S2.2, respectively. Below, in Figure 2.2 we show the specific indirect pathways from social activities to well-being via relationship quality, self-esteem, and self-efficacy, followed in Figure 2.3 by the pathways from social activities to SDQ Total Difficulties via the same variables. Note that all indirect pathways illustrated in the figures that follow were significant with  $\alpha$  set to .05.

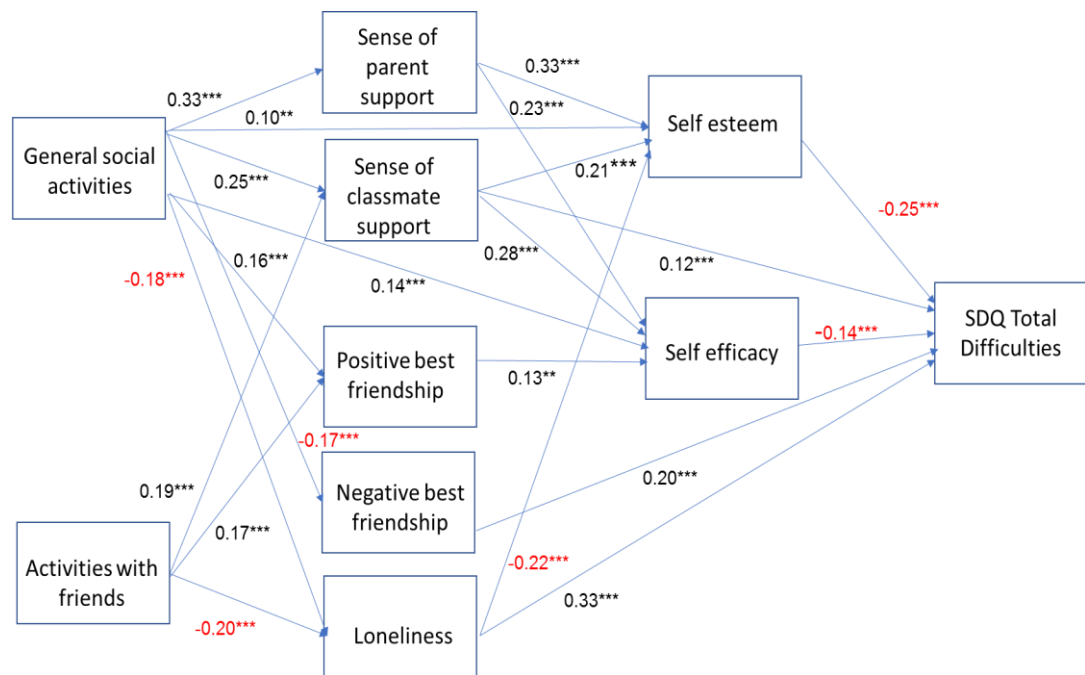
**Pathways from social activities to well-being.** Our predictions that higher general social activities and activities with friends would predict higher wellbeing via relationship quality and self-concept variables, rather than directly, with the opposite (negative) relationships for SDQ Total Difficulties were supported.



*Figure 2.2.* Significant pathways from activities with friends and general social activities to well-being via self-esteem and self-efficacy. Age (year group), gender, adult support, sense of school achievement/engagement and empathy were controlled for.

As shown in by the significant indirect effects displayed in Table S2.1 in supplementary information, both higher levels of activities with friends and higher general social activities were associated with higher well-being via positive best friendship, sense of classmate support, loneliness and self-esteem, and sense of classmate support and both self-esteem and self-efficacy. In addition, there were distinct mediated pathways from activities with friends via loneliness, and via positive best friendship and self-efficacy. The distinct pathways from general social activities were via sense of parental support and both self-esteem and self-efficacy, and also via self-esteem and self-efficacy without prior mediation by relationship variables.

**Pathways from social activities to SDQ Total Difficulties.** Figure 2.3 shows significant pathways to mental health problems (SDQ Total Difficulties).



*Figure 2.3.* Significant pathways from activities with friends and general social activities to mental health problems (SDQ) via self-esteem and self-efficacy<sup>3</sup>. Age (year group), gender, adult support, sense of school achievement/engagement and empathy were controlled for.

<sup>3</sup> All mediated pathways shown from activities with friends and general social activities to SDQ Total Difficulties are significant apart from via positive best friendship and self-efficacy. The association between positive best friendship and SDQ Total Difficulties was significantly mediated via self-efficacy.

As shown in Table S2.2 in supplementary information, higher participation in activities with friends was associated with lower mental health problems via lower loneliness, lower loneliness and higher self-esteem, and via higher sense of classmate support and both self-esteem and self-efficacy. The same mediated pathways were found from general social activities, but in addition this variable was also associated with lower mental health problems via lower negative aspects of best friendship, and higher sense of parental support and both self-efficacy and self-esteem. Furthermore, those variables measuring negative aspects of peer relationships (loneliness and negative best friendship) had significant direct effects on SDQ total difficulties.

**Control variables at Time 1.** Effects involving gender, age, adult support, empathy and sense of school achievement and engagement are summarised in supplementary information.

### **Longitudinal Analyses**

Further analyses were carried out to examine relationships across time to evaluate the direction of associations between social activities and relationship quality (Model 1), relationship quality and self-concept (Model 2) and self-concept and SDQ total difficulties and well-being (Model 3). We used structural equation modelling techniques to examine cross-lagged associations among the variables in each of the three models from Time 1 to Time 2, taking into account the

autoregressive paths of each variable across time points and again controlling for any variance explained by year group (age) and gender. Because there were only two time points it was not possible to test the entire mediated pathways in one longitudinal model. However, all components of the above indirect pathways were tested in the separate models, with Time 1 variables being allowed to covary again within each conceptual section of our model (social activities; relationship quality; self-concept; well-being/SDQ Total Difficulties). Path coefficients for these models are shown in Table 2.5.

Table 2.5

*Unstandardised and standardised coefficients for the significant paths for the three models testing longitudinal cross-lagged associations*

<i>Parameter Estimate</i>	<i>Unstandardized coefficients (standard error)</i>	<i>Standardized coefficients (standard error)</i>	<i>p</i>
<b>Model 1: Activities and Relational Support</b>			
T2 Sense of support from parents on:			
T1 Sense of support from parents	.61 (.03)	.65 (.03)	<.0001
T1 Activities with friends	.28 (.11)	.08 (.03)	.013
T2 Sense of support from classmates on:			
T1 Sense of support from classmates	.57 (.03)	.63 (.03)	<.0001
T2 Sense of adult support on:			
T1 Sense of adult support	.49 (.03)	.53 (.03)	<.0001
T2 Loneliness on:			
T1 Loneliness	.51 (.03)	.55 (.03)	<.0001
T1 Activities with friends	-.10 (.05)	-.07 (.04)	.042
T2 Positive best friendship on:			
T1 Positive best friendship	.44 (.04)	.46 (.03)	<.001
T2 Negative best friendship on:			
T1 Negative best friendship	.44 (.04)	.49 (.04)	<.001
T2 General social activities on:			
T1 General social activities	.42 (.04)	.44 (.04)	<.0001
T1 Sense of support from parents	.03 (.01)	.15 (.04)	<.0001
T1 Loneliness	-.06 (.02)	-.12 (.04)	.001
T2 Activities with friends on:			
T1 Activities with friends	.62 (.03)	.64 (.03)	<.0001
T1 Positive best friendship	.04 (.01)	.12 (.04)	.001
<b>Model 2: Relationship quality and self-concept</b>			
T2 Self-esteem on:			
T1 Self-esteem	.54 (.04)	.56 (.03)	<.0001
T1 Loneliness	-.18 (.06)	-.11 (.04)	.003
T2 Self-efficacy on:			
T1 Self-efficacy	.47 (.04)	.50 (.03)	<.0001
T1 Positive best friendship	.11 (.03)	.14 (.04)	<.0001
T2 Empathy on:			
T1 Empathy	.52 (.04)	.52 (.03)	<.0001
T2 Sense of school achievement /engagement on:			
T1 Sense of school achievement /engagement	.45 (.04)	.50 (.04)	<.0001
T1 Sense of support from parents	.09 (.02)	.15 (.04)	<.0001
T2 Sense of support from parents on:			
T1 Sense of support from parents	.60 (.03)	.64 (.03)	<.0001
T2 Sense of support from classmates on:			
T1 Sense of support from classmates	.57 (.03)	.63 (.03)	<.0001
T2 Sense of adult support on:			
T1 Sense of adult support	.49 (.03)	.53 (.03)	<.0001
T2 Loneliness on:			
T1 Loneliness	.50 (.03)	.53 (.03)	<.0001
T1 Self-efficacy	-.08 (.02)	-.13 (.04)	<.0001
T2 Positive best friendship on:			
T1 Positive best friendship	.38 (.04)	.39 (.04)	<.0001
T1 Empathy	.27 (.07)	.15 (.04)	<.0001
T2 Negative best friendship on:			
T1 Negative best friendship	.44 (.04)	.46 (.04)	<.0001
T1 Sense of School Achievement/engagement	-.09 (.03)	-.11 (.04)	.004
<b>Model 3: Self-concept and outcomes (SDQ and Wellbeing)</b>			
T2 Self-esteem on:			
T1 Self-esteem	.57 (.04)	.58 (.04)	<.0001
T1 SDQ Total Difficulties	-.22 (.08)	-.11 (.04)	.007
T2 Self-efficacy on:			
T1 Self-efficacy	.46 (.04)	.49 (.04)	<.0001
T1 SDQ Total Difficulties	-.28 (.07)	-.15 (.04)	<.0001
T2 Empathy on:			
T1 Empathy	.50 (.04)	.51 (.03)	<.0001

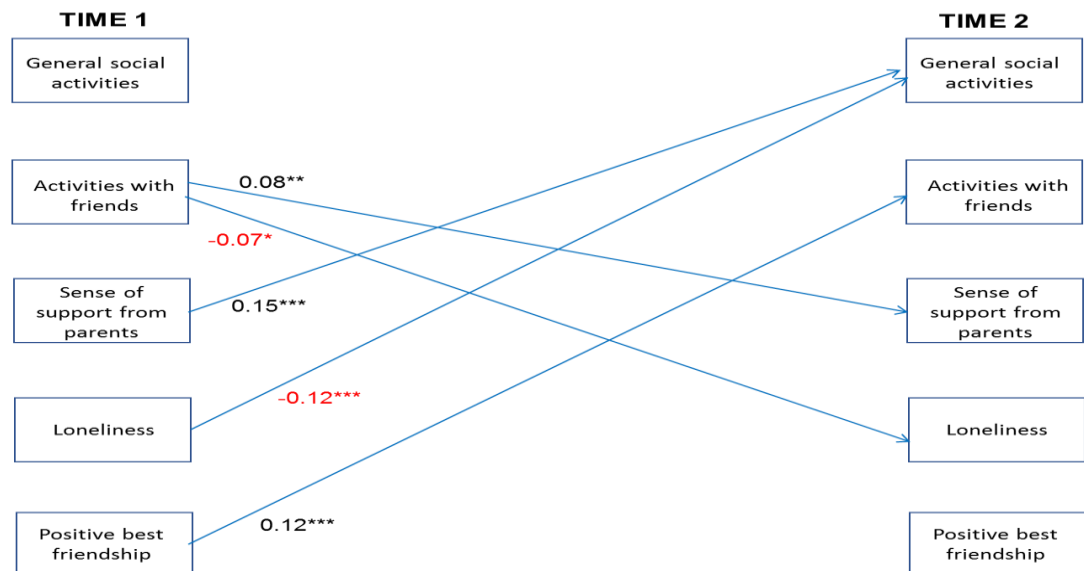
T2 Sense of school achievement /engagement on:			
T1 Sense of school achievement /engagement	.46 (.04)	.51 (.04)	<.0001
T1 SDQ Total Difficulties	-.29 (.08)	-.15 (.04)	<.0001
T2 Wellbeing on:			
T1 Wellbeing	.35 (.04)	.37 (.04)	<.0001
T1 Self-esteem	.23 (.05)	.22 (.04)	<.0001
T1 Self-efficacy	.13 (.05)	.11 (.04)	.010
T2 SDQ Total Difficulties on:			
T1 SDQ Total Difficulties	.63 (.03)	.65 (.03)	<.0001
T1 Self-esteem	-.05 (.02)	-.11 (.04)	.005
T1 Self-efficacy	-.05 (.02)	-.09 (.04)	.007

Our analyses reveal significant longitudinal associations between variables.

Figures 2.4, 2.5 and 2.6 show the significant cross lagged paths in the three models.

Although all relevant variables were included in the models, only those with significant cross-lagged associations are shown. Autoregressive paths showed high stability, with  $\beta$ s consistently being  $> .45$

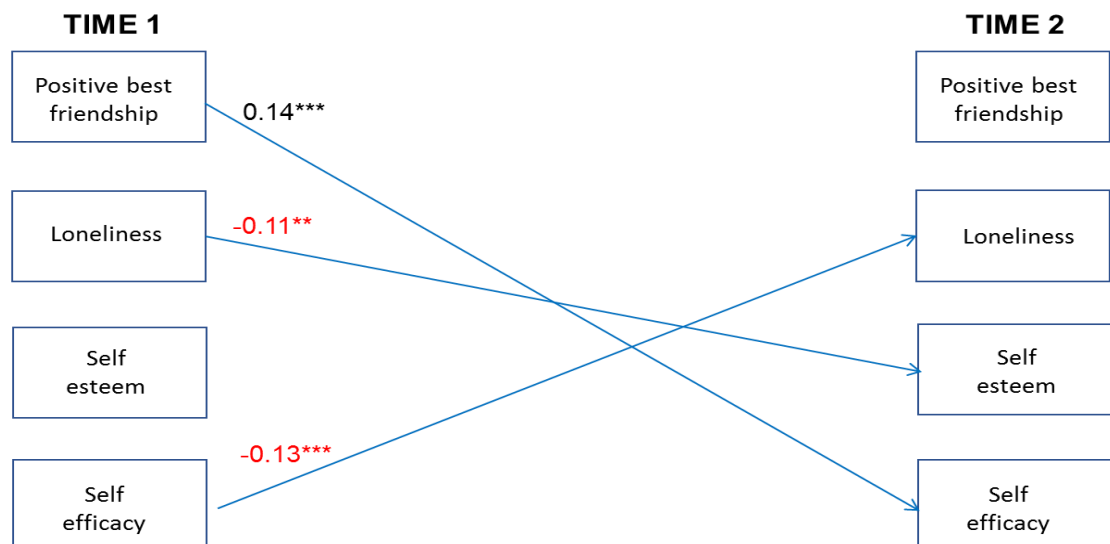
**Social activities and relationship quality.** Our first longitudinal model tested cross-lagged associations between the measures of social activities and the measures of relationship quality.



*Figure 2.4.* Significant cross-lagged associations between Time 1 and Time 2 social activity variables and relationship variables. Autoregressive paths and covariances between T1 social activities and T1 relationships variables are not shown.

Overall model fit was acceptable:  $\chi^2 (51) = 130.38, p = <.001$ ; RMSEA = 0.05, CFI = 0.97; SRMR = 0.05. Figure 2.4 shows that higher levels of activities with friends predicted increased sense of support from parents and decreased loneliness. Higher sense of support from parents and lower loneliness predicted increased participation in general social activities, while more positive best friendship predicted increasing participation in activities with friends.

**Relationship quality and self-concept.** Our second longitudinal model tested cross-lagged associations between the measures of relationship quality and the measures of self-concept. The two additional measures of social and academic motivation - empathy and sense of school achievement and engagement - were controlled for in this model. Significant longitudinal associations for these variables are summarised in supplementary information.



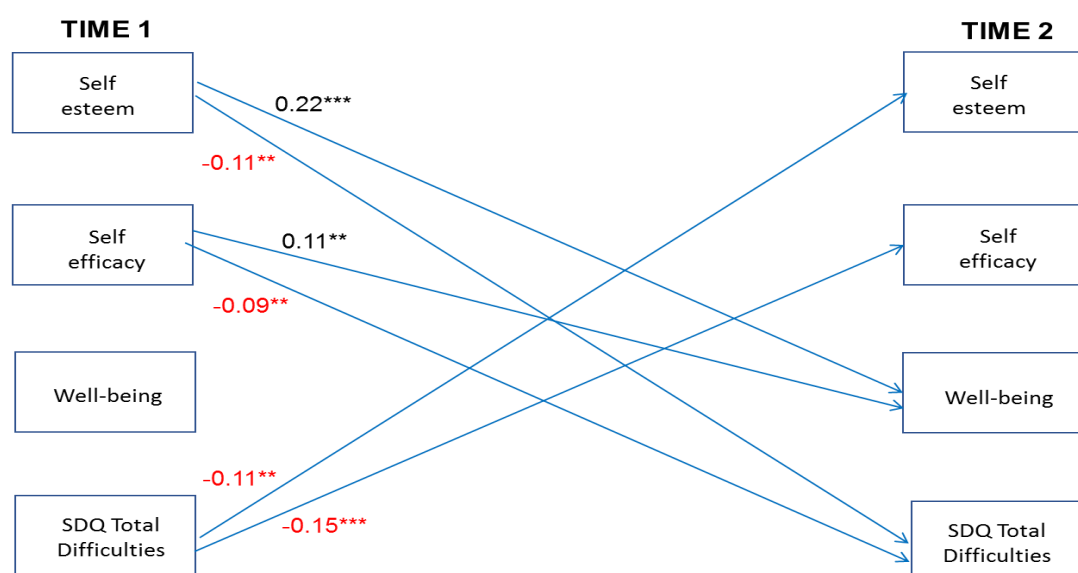
*Figure 2.5.* Significant cross-lagged associations between Time 1 and Time 2 relationship and self-concept variables. Autoregressive paths and covariances between T1 relationships and T1 self-concept variables are not shown.

Overall model fit was acceptable:  $\chi^2 (84) = 141.89, p = .0001$ ; RMSEA = 0.04, CFI = 0.98; SRMR = 0.06. Figure 2.5 shows that higher loneliness predicted reduced self –



esteem, while higher positive best friendship quality predicted increased self-efficacy, and higher self-efficacy predicted reduced loneliness.

**Self-concept and well-being / SDQ Total Difficulties.** Our third longitudinal model tested cross-lagged associations between the measures of self-concept and the measures of well-being and mental health problems (SDQ Total Difficulties). As in the previous model, the two additional measures of social and academic motivation - empathy and sense of school achievement and engagement - were controlled for in this model. Significant longitudinal associations for these variables are summarised in supplementary information.



*Figure 2.6.* Significant cross-lagged associations between Time 1 and Time 2 self-concept (self-esteem and self-efficacy) and well-being and mental health problem (SDQ Total Difficulties) variables. Autoregressive paths and covariances between T1 self-concept and T1 well-being and SDQ total difficulties variables are not shown.

Overall model fit was acceptable:  $\chi^2(23) = 52.81, p = 0.0004$ ; RMSEA = 0.05, CFI = 0.99; SRMR = 0.04. Figure 2.6 shows the crossed-lagged effects between self-concept variables and well-being and SDQ total difficulties. Higher self-esteem and self-efficacy predicted decreased SDQ total difficulties and increased well-being. Higher

SDQ total difficulties predicted decreased self-esteem and self-efficacy whereas well-being did not predict significant increases or decreases in these self-concept variables.

## **Discussion**

The present study provides clear evidence that there are distinct pathways from peer relationships to psychological adjustment, over and above parental and adult support, and supports the contention that it is important to differentiate between both positive and negative aspects of dyadic best friendship and wider peer group support. The longitudinal associations between peer variables, particularly activities with friends, loneliness and positive aspects of best friendship, show complex bidirectional associations which we discuss in terms of potential points of intervention to foster well-being and reduce mental health problems. Of the two social activities variables, it was only activities with friends that were a significant antecedent to relationship quality in the longitudinal analyses, predicting decreased loneliness and increased sense of support from parents. Having a best friendship with more positive qualities predicted increased self-efficacy while higher loneliness predicted reduced self-esteem across time. While these associations in the direction of the model were the primary focus, there were also effects in the opposite direction involving the same variables, with higher levels of positive qualities in a best friendship predicting increased participation in activities with friends, but higher loneliness predicting decreased participation in general social activities. Higher self-efficacy also predicted decreased loneliness.

Furthermore, while self-esteem and self-efficacy both predicted changes in well-being and mental health problems (SDQ total difficulties), bidirectional effects were only found for mental health problems.

### **Interpersonal Relationships – The Role of Peers**

While there were significant concurrent indirect pathways from all relationship sources to mental health and wellbeing, only some relationship variables had significant longitudinal associations. As anticipated, peer variables predicted many changes. The effect of loneliness on subsequent self-esteem, even when so many other types of relationships are controlled for, is an important finding. There is an identified lack of longitudinal studies into the directional effects between these two variables, but one recent longitudinal study found that they influenced one another in a reciprocal manner (Vanhalst, Luyckx, Scholte, Engels & Goossens, 2013). Although the relationship we have found is unidirectional, the previous study did not control for other measures of social support or include other aspects of self-concept such as self-efficacy.

We found that self-efficacy, rather than self-esteem, predicted reductions in loneliness over time, which emphasises a different relationship between loneliness and aspects of self-concept, as well as a complex relationship with different peer-related variables. Previous studies have found negative correlations between self-efficacy and loneliness (Dussault & Deaudelin, 2001; Cheng & Furnham, 2002), but given that positive best friendship quality predicted increased self-efficacy, there is the potential that fostering dyadic relationships could lead to reductions in school-based loneliness via improved self-efficacy over time. The importance of family and peer experiences in fostering self-efficacy is acknowledged (Bandura, 1997; Bandura, Barbaranelli, Caprara & Pastorelli, 2001) and recent cross-sectional research with adolescents has identified the importance of perceived close friendship support in fostering resilience, via a constructive coping style and effort, a sub-scale of self-efficacy (Graber, Turner & Madill, 2016).

The present study identifies that it may be the *quality* of close friendship that leads to positive changes in self-efficacy and subsequent reductions in sense of loneliness at school. Given that self-efficacy is conceptualised as an individual's belief in their ability to tackle problems and challenges, and to overcome adversity in difficult situations, it may be that this extends to proactively dealing with difficulties in the social context that would otherwise contribute to loneliness. The reciprocity – mutual support and give and take – that form the deep structure of friendship and make it qualitatively different to other peer relationships (Hartup & Stevens, 1997) may provide the supportive context required to foster this ability.

### **The Role of Social Activities**

Participation in activities with friends had positive concurrent associations with higher well-being and lower mental health problems, particularly via peer related variables: loneliness, classmate support and positive best friendships. There were also distinctive longitudinal bidirectional effects between activities with friends and peer relationships. This is to be expected given that adolescents often select or stop activities based on friendships (Persson et al., 2007) while the activities in turn shape the friendships, peer interactions and peer groups that adolescents identify with (Eccles & Barber, 1999; Fredricks & Simpkins, 2013).

The fact that increasing levels of activities with friends were predicted by more positive best friendship quality, and that more activities with friends predicted both decreased loneliness and increased sense of support from parents, which in turn both predicted increased participation in general social activities, is suggestive of cascading effects - that functioning within one domain may affect adjustment across one or more other domains over time (Masten, 2001; Masten & Cicchetti, 2010; Masten, Obradovic

& Burt, 2006). Although beyond the scope of this research to test, fostering supportive close friendships may help to increase informal activities with friends, which themselves can be conceptualised as an important stimulus or antecedent to other relationships and activities. This supports previous research that has found that those young people who have one high quality friendship are more able to establish high quality friendships with many others (Demir & Urberg, 2004).

Although sense of support from parents predicted increased participation in general social activities over time, it was participation in more activities with friends that predicted increased sense of support from parents. This was surprising, given that effects in the opposite direction may have been more expected as parents continue to support their children's social interactions. However, one of the key tasks of adolescence is individuation from parents and the development of closer relationships with peers, so it may be that those young people who have a good friendship and are given the support and freedom to spend time with peers feel more supported by parents, given that support from friends has been found to predict support from parents from early to late adolescence (De Goed, Branje, Delsing & Meeus, 2009).

### **Mental health and Well-being**

Our findings support the fact that there are distinct pathways to wellbeing and mental health problems both concurrently and longitudinally (Patalay & Fitzsimons, 2016). Concurrently, we see particular effects of negative best friendship qualities and loneliness, both of which had a direct effect on mental health problems but not wellbeing. This supports previous research that has found differential effects of positive and negative friendship qualities, with negative aspects affecting mental health problems (La Greca & Harrison, 2005) and the strong association between loneliness

and health problems, including mental health (Heinrich & Gullone, 2006; Hawkley & Capiocco, 2010) particularly when the loneliness is persistent and enduring (Harris, Qualter & Robinson, 2013; Qualter, Brown, Munn & Rotenberg, 2010; Qualter et al., 2013). These effects may persist longitudinally, but we were unable to test the entire mediated pathways from relationship quality to mental health and well-being via self-efficacy and self-esteem given only two time points.

In the longitudinal analyses examining the relationships between self-efficacy and self-esteem it is noteworthy there were only bidirectional effects with SDQ total difficulties; higher scores on SDQ Total Difficulties at Time 1 predicted lower self-efficacy and self-esteem at Time 2, while lower self-esteem and self-efficacy at Time 1 also predicted increasing SDQ scores. In contrast, while higher self-esteem and self-efficacy both predicted increased well-being, higher well-being did not predict increases in these aspects of self-concept. These findings appear to support a transactional model, in which mental health problems and self-concept variables reciprocally reinforce one another, resulting in a vicious cycle. The fact that there was not a corresponding positive cycle with wellbeing suggests that boosting wellbeing may not buffer against the effect of mental health problems on these self-concept variables and that rather the mental health problems themselves need to be addressed, particularly as we also found, in our supplementary analyses, that mental health problems predicted a decrease in school sense of achievement and engagement. Once again this is suggestive of cascading effects and these effects have been found between externalising and internalising symptoms and academic competence (Masten et al., 2005) with some of these cascading effects more likely to occur during periods of school related transitions (Moilanen, Shaw & Maxwell 2010). Our results indicate that incorporating psychological variables such as self-esteem and self-efficacy in this type of model to test for cascading effects

on mental health problems and both academic outcomes and academic sense of achievement would be beneficial.

### **Limitations and Future Directions**

Despite making an important contribution to our understanding of mental health problems and well-being with a large sample of early adolescents, some limitations should be noted. Although adolescents are considered the best informants for their own social relationships and friendships (La Greca & Harrison, 2005), the fact that results were entirely based on self-report questionnaires gives rise to the issues of shared method variance and response bias, particularly given the sensitive nature of many of the questionnaires. A multi-informant approach including teachers, peers and parents or multi-method approaches, such as the inclusion of peer sociometric nominations, would be more robust and potentially reveal further insights, since ratings of behaviour and social relationships can differ by informant (e.g. Burk & Laursen, 2005) and screening measures of mental health problems are most sensitive when more than one informant provides information (Goodman, Ford, Corbin & Meltzer, 2004).

We also acknowledge that although this study measures many constructs, it is not exhaustive. Other studies have revealed the importance of considering sociometric nominations as distinct from measures of close dyadic friendship (e.g. Bagwell et al., 1998; Kingery, Erdley & Marshall, 2011), wider peer relationships such as peer crowd affiliations (e.g. La Greca & Harrison, 2005), peer and parental attachment (Wilkinson, 2010) and other aspects of relationships with adults such as parent-adolescent conflict and teacher-student relationships (e.g. Wang, Brinkworth & Eccles, 2012). Similarly, although we predominantly focused on just self-esteem and self-efficacy in this paper, while controlling for some other measures of academic and social motivation, we

necessarily excluded other individual characteristics that have been shown to be associated with mental health and well-being such as coping styles (Graber et al., 2016) and personality and attributional style (Cheng & Furnham, 2001).

Furthermore, the sample was drawn from three schools in one geographical area, whose intakes were predominantly White British with below average special educational needs and free school meals. As such generalisation to other ethnic groups or school populations with different demographics should be made with caution. Further research in samples that are more ethnically and socio-economically diverse would help to contextualise these findings, given that cross-ethnic friendships can contribute to well-being and psychosocial adjustment in distinct ways (Bagci, Kumashiro, Rutland, Smith & Blumberg, 2017; Graham, Munniksma & Juvonen, 2014), as can subjective socio-economic status and social status (Sweeting & Hunt, 2014). It should also be noted that because participants were a community sample of adolescents, these findings may not generalise to populations experiencing clinical levels of mental health problems and the non-experimental nature of the study means that although we can begin to see directional associations, we are unable to draw firm causal inferences about the relationships between variables.

Some limitations of the present study suggest directions for further research. Most importantly, because participants only completed the questionnaires across two time points we are only able to identify *likely* longitudinal relationships across the whole model. We could not fully test mediation effects longitudinally or longitudinal associations between social activities and relationship quality and SDQ total difficulties and well-being. Given the support provided for our model concurrently, and longitudinal effects where we could test them, it would be beneficial to test this model over three or more time-points (Cole & Maxwell, 2003), particularly to explore further



the longitudinal associations between activities with friends and well-being and mental health, via loneliness and self-esteem, and the role of positive aspects of best friendship in predicting changes in these outcomes via self-efficacy. Better understanding the role of positive best friendship as an antecedent to the pathway from activities with friends would also be beneficial. A longitudinal study with multiple variables across three or more time-points, while controlling for autoregressive effects would also enable us to properly test for cascading effects (Masten & Cicchetti, 2010). Finally, given the identified importance of the informal activities with friends, it may be important to extend this measure to incorporate other informal time spent with peers, particularly online communications via social media (O’Keeffe & Clarke-Pearson, 2011). Nonetheless, the present study demonstrates the importance of a fine-grained consideration of the peer context to a better understanding of changes in both mental health problems and well-being across the period of early adolescence, when young people experience major changes including the transition from primary to secondary school.

### Supplementary information

Table S2.1

*Direct and indirect pathways from social activities and relationship quality to well-being*

Pathways	Standardised coefficient	p value	95% Confidence Intervals
Total indirect effect of Activities with Friends on Wellbeing	.098	<.0001	[0.06, 0.14]
Specific indirect via:			
Positive best friendship	.026	.008	[0.01, 0.04]
Loneliness	.016	.042	[0.00, 0.03]
Sense of achievement	-.015	.019	[-0.03, -0.00]
Sense of support from classmates	.023	.011	[0.01, 0.04]
Self-esteem and positive best friendship	-.005	.113	[-0.01, 0.00]
Self-esteem and loneliness	.013	.001	[0.01, 0.02]
Self-esteem and sense of support from classmates	.012	.004	[0.00, 0.02]
Self-efficacy and positive best friendship	.006	.035	[0.00, 0.01]
Self-efficacy and sense of support from classmates	.015	.001	[0.01, 0.02]
Sense of achievement and positive best friendship	.004	.034	[0.00, 0.01]
Sense of achievement and loneliness	-.003	.124	[-0.01, 0.00]
Sense of achievement and sense of support from classmates	.007	.019	[0.00, 0.01]
Total indirect effect of General Social Activities on Wellbeing	.275	<.0001	[0.21, 0.34]
Specific indirect via:			
Positive best friendship	.023	.014	[0.00, 0.04]
Loneliness	.014	.075	[-0.00, 0.03]
Self-esteem	.029	.011	[0.01, 0.05]
Self-efficacy	.039	.003	[0.01, 0.07]
Sense of support from classmates	.030	.012	[0.01, 0.05]
Self-esteem and positive best friendship	-.004	.119	[-0.01, 0.00]
Self-esteem and negative best friendship	.004	.151	[-0.00, 0.01]
Self-esteem and loneliness	.011	.007	[0.00, 0.02]
Self-esteem and sense of support from parents	.036	<.0001	[0.02, 0.06]
Self-esteem and sense of support from classmates	.016	.003	[0.01, 0.03]
Self-efficacy and positive best friendship	.005	.063	[0.00, 0.01]
Self-efficacy and sense of support from parents	.024	.001	[0.01, 0.04]
Self-efficacy and sense of support from classmates	.019	<.0001	[0.01, 0.03]
Sense of achievement and sense of adult support	.011	.019	[0.00, 0.02]
Sense of achievement and positive best friendship	.004	.050	[0.00, 0.01]
Sense of achievement and loneliness	-.003	.166	[-0.01, 0.00]
Sense of achievement and sense of support from parents	.007	.067	[-0.00, 0.01]
Sense of achievement and sense of support from classmates	.008	.021	[0.00, 0.02]
Total indirect effect of Sense of support from parents on Wellbeing	0.173	<.0001	[0.11, 0.23]
Specific indirect via:			
Self-esteem	.091	<.0001	[0.05, 0.13]
Self-efficacy	.063	<.0001	[0.03, 0.10]
Sense of achievement	.019	.051	[0.00, 0.04]
Total indirect effect of Sense of support from classmates on Wellbeing	.168	<.0001	[0.11, 0.23]
Specific indirect via:			
Self-esteem	.059	.001	[0.02, 0.09]
Self-efficacy	.076	<.0001	[0.04, 0.11]
Sense of achievement	.032	.012	[0.01, 0.06]
Total indirect effect of Sense of adult support on Wellbeing	.026	.013	[0.01, 0.05]
Specific indirect via:			
Sense of achievement	.026	.013	[0.01, 0.05]
Total indirect effect of Loneliness on Wellbeing	-.046	.008	[-0.08, -0.01]
Specific indirect via:			
Self-esteem	-.061	<.0001	[-0.09, -0.03]
Sense of achievement	.015	.100	[-0.00, 0.03]
Total indirect effect of Positive best friendship on Wellbeing	.031	.231	[-0.02, 0.08]
Specific indirect via:			
Self-esteem	-.025	.077	[-0.05, 0.00]
Self-efficacy	.034	.018	[0.01, 0.06]
Sense of achievement	.022	.019	[0.00, 0.04]
Total indirect effect of Negative best friendship on Wellbeing	-.023	.096	[-0.05, 0.00]
Specific indirect via:			
Self-esteem	-.023	.096	[-0.05, 0.00]

Table S2.2

*Direct and indirect pathways from social activities and relationship quality to mental health problems (SDQ Total Difficulties)*

Pathways	Standardised coefficient	p value	95% Confidence Intervals
Total indirect effect of Activities with friends on SDQ Total Difficulties	-.085	<.0001	[-0.13, -0.05]
Specific indirect via:			
Loneliness	-.067	<.0001	[-0.10, -0.04]
Sense of achievement	.017	.011	[0.00, 0.03]
Self-esteem and positive best friendship	.004	.132	[-0.00, 0.01]
Self-esteem and loneliness	-.010	.003	[-0.02, -0.00]
Self-esteem and sense of support from classmates	-.010	.008	[-0.02, -0.00]
Self-efficacy and positive best friendship	-.003	.062	[-0.01, 0.00]
Self-efficacy and sense of support from classmates	-.007	.013	[-0.01, -0.00]
Sense of achievement and positive best friendship	-.004	.021	[-0.01, -0.00]
Sense of achievement and loneliness	.004	.118	[-0.00, 0.01]
Sense of achievement and sense of support from classmates	-.007	.017	[-0.01, -0.00]
Total indirect effect of General social activities on SDQ Total Difficulties	-.240	<.0001	[-0.31, -0.17]
Specific indirect via:			
Negative best friendship	-.033	.002	[-0.05, -0.01]
Loneliness	-.059	.001	[-0.10, -0.03]
Self-esteem	-.023	.016	[-0.04, -0.00]
Self-efficacy	-.019	.032	[-0.04, -0.00]
Self-esteem and positive best friendship	.003	.124	[-0.00, 0.01]
Self-esteem and negative best friendship	-.003	.131	[-0.01, 0.00]
Self-esteem and loneliness	-.009	.012	[-0.02, -0.00]
Self-esteem and sense of support from parents	-.030	.001	[-0.05, -0.01]
Self-esteem and sense of support from classmates	-.013	.006	[-0.02, -0.00]
Self-efficacy and positive best friendship	-.003	.116	[-0.01, 0.00]
Self-efficacy and sense of support from parents	-.012	.016	[-0.02, -0.00]
Self-efficacy and sense of support from classmates	-.009	.013	[-0.02, -0.00]
Sense of achievement and sense of adult support	-.013	.014	[-0.02, -0.00]
Sense of achievement and positive best friendship	-.004	.045	[-0.01, 0.00]
Sense of achievement and loneliness	.003	.162	[-0.00, 0.01]
Sense of achievement and sense of support from parents	-.008	.042	[-0.02, 0.00]
Sense of achievement and sense of support from classmates	-.009	.021	[-0.02, -0.00]
Total indirect effect of Sense of support from parents on SDQ Total Difficulties	-.135	<.0001	[-0.19, -0.08]
Specific indirect via:			
Self-esteem	-.076	<.0001	[-0.12, -0.04]
Self-efficacy	-.034	.006	[-0.06, -0.01]
Sense of achievement	-.025	.027	[-0.05, 0.00]
Total indirect effect of Sense of support from classmates on SDQ Total Difficulties	-.133	<.0001	[-0.18, -0.09]
Specific indirect via:			
Self-esteem	-.049	.002	[-0.08, -0.02]
Self-efficacy	-.041	.003	[-0.07, -0.01]
Sense of achievement	-.043	.006	[-0.07, -0.01]
Total indirect effect of Sense of adult support on SDQ Total Difficulties	-.034	.004	[-0.06, -0.01]
Specific indirect via:			
Sense of achievement	-.034	.004	[-0.06, -0.01]
Total indirect effect of Loneliness on SDQ Total Difficulties	.031	.110	[-0.01, 0.07]
Specific indirect via:			
Self-esteem	.051	<.0001	[0.02, 0.08]
Sense of achievement	-.020	.091	[-0.04, 0.00]
Total indirect effect of Positive best friendship on SDQ Total Difficulties	-.027	.242	[-0.07, 0.02]
Specific indirect via:			
Self-esteem	.021	.097	[-0.00, 0.05]
Self-efficacy	-.018	.044	[-0.04, 0.00]

Sense of achievement	-.029	.009	[-0.05, -0.01]
Total indirect effect of Negative best friendship on SDQ Total Difficulties	.019	.094	[-0.00, 0.04]
Specific indirect via: Self-esteem	.019	.094	[-0.00, 0.04]

### Control Variables at Time 1

**Gender.** Girls were significantly higher on positive best friendship quality and empathy, and significantly lower on self-esteem and self-efficacy than boys.

**Year group (Age).** Age was a significant negative predictor of positive best friendship quality, empathy, well-being, self-esteem, sense of adult support, and sense of classmate support, and positively associated with higher scores on loneliness.

**Adult support.** Adult support was a significant mediator for both well-being and SDQ Total Difficulties from general social activities. It also predicted higher well-being and lower SDQ Total Difficulties via sense of school achievement and engagement.

**Empathy.** Empathy did not significantly mediate any of the associations between social activities and either well-being or SDQ Total Difficulties.

**Sense of school achievement and engagement.** Sense of school achievement and engagement was a significant mediator for both well-being and SDQ Total Difficulties from activities with friends and general social activities. It was also a mediator between sense of parent support, sense of classmate support, adult support and positive best friendship, and both SDQ Total Difficulties and well-being (see Tables S2.1 and S2.2). Of significance is the fact that higher participation in activities with friends was associated with lower sense of school achievement and engagement.

**Longitudinal associations of control variables.** Longitudinally, adult support was not a significant predictor of changes in social activities or self-concept. Higher empathy predicted significantly increased ratings of positive best friendship qualities. Lower sense of school achievement and engagement predicted increased ratings of

negative best friendship qualities, higher SDQ Total Difficulties predicted decreased sense of school achievement and engagement, while higher sense of parental support predicted increases in this variable.

### **Paper 3**

**Understanding changes in the mental health of children looked-after in  
early adolescence: The role of peer relationships and self-concept**

### **Abstract**

Children and young people looked-after in care (CLA) are at far higher risk of a range of poorer outcomes, including elevated risk of mental health problems. In addition, the transition period from primary to secondary school may be particularly challenging for CLA who have often experienced maltreatment, adversity and previous disruptions to school and care placements. This paper explores the factors associated with changes in mental health problems and well-being across these early adolescent years from a resilience perspective informed by ecological systems theory. Participants were 105 young adolescents (age 10-to-14 year olds) in foster care and mainstream education who completed measures of social activities, relationship quality with peers and adults, aspects of self-concept including self-esteem and self-efficacy, and mental health problems and positive well-being. The measures were completed across two school years, one year apart. Distinct pathways to mental health problems and well-being were found both concurrently and longitudinally, identifying different aspects of peer relationship quality as important predictors of both well-being and mental health problems over and above adult support. Self-efficacy was identified as a key predictor of change in well-being, and in both well-being and mental health problems when moderated by peer relationship quality, especially positive best friendship. Theoretical and practical implications are discussed.

## Introduction

The period between late childhood and mid-adolescence is a time of transitions – physical, psychological, cognitive, social and educational – including the age expected transition from primary to secondary school. Coping with these developmental changes may be particularly difficult for children who are in the care system (‘children who are looked after’, or CLA), many of whom have experienced severe disadvantage, disruption, abuse and/or neglect prior to entry into care, and can correspondingly display a profile of significant maladjustment across many aspects of development (Bazalgette, Rahilly, & Trevelyan, 2015; Berridge, 2012; Fisher, 2015). Indeed, national surveys of mental health problems in CLA in the UK have all found a far higher prevalence of mental disorders than in the general population (McAuley & Davis 2009; McSherry, Fargas Malet, McLaughlin, Adams, O’Neill, Cole & Walsh 2015; Meltzer, Corbin, Gatward, Goodman & Ford 2003; Meltzer, Lader, Corbin, Goodman & Ford, 2004a, 2004b).

Within this population, however, we know that there are substantial individual differences in mental health and well-being; some CLA appear to be more resilient than others (Bell & Romano, 2015; Haskett, Nears, Sabourin Ward & McPherson; Woolgar, 2013). In the present longitudinal investigation, we sought to gain a fine-grained understanding of how social and psychological characteristics are associated with variations in mental health and well-being during this critical transition period. Particular attention is paid to social activities and relationships in the peer context, because even though difficulties within the peer group have often been noted among maltreated children and CLA (e.g. Anderton, 2009; Anthonysamy & Zimmer-Gembeck, 2007; Howe & Parke, 2001; Salzinger, Feldman, Hammer & Rosario, 1993), the



ramifications of variations in this area for broader developmental outcomes are little understood.

### **Mental Health and Resilience**

Almost two thirds of children enter care as a result of abuse or neglect (DfE, 2016a), and the association between maltreatment and mental health problems in adolescence and adulthood is well-established (Herrenkohl, Hong, Klika, Herrenkohl & Russo 2013; Mills, Scott, Alati, O’Callaghan, Najman & Strathearn 2013; Norman, Byambaa, De, Butchart, Scott & Vos 2012; Trickett, Negriff, Ji, & Peckins, 2011). This is reflected in the fact that the prevalence of mental health problems is far higher in this group than in other populations of less advantaged children (Ford, Vostanis, Meltzer & Goodman 2007), and that high levels of emotional and behavioural difficulties are evident at time of entry into care even in very young children (Sempik, Ward, & Darker, 2008). The importance of early intervention for mental health problems experienced by children in care is highlighted by both policy makers and professionals (Department for Education & Department of Health (DoH), 2015; DoH & NHS England, 2015; House of Commons Health Committee, 2014) and there is an identified need for those working with children to be aware of the early warning signs that might be evident in every day settings, including mainstream schools (DoH & NHS England, 2015; House of Commons Education Committee, 2016; NICE/SCIE, 2010/2013).

Despite this, it is important to acknowledge that children who are looked after are a heterogenous group who show significant variability in outcomes, with some young people in foster care showing considerable resilience despite experiencing significant risk (Schofield & Beek 2005; Schofield, Biggart, Ward & Larsson 2015). This study focuses on some of the factors that have been associated with resilient

functioning, namely interpersonal relationships, including friendships (Bell & Romano, 2015; Daniel, Wassell, & Gilligan, 1999), recreational activities (Daniel, Wassell, & Gilligan, 1999; Gilligan, 1999; Gilligan, 2008) and psychological characteristics such as self-esteem and self-efficacy (Bell & Romano, 2015; Legault, Anawati & Flynn, 2006). Developing a better understanding of how these factors are related to variations in both mental health problems and positive aspects of well-being is important for enhancing early support to those young people who may be most at risk.

Theories of resilience grounded in the social-environmental context underpin the strengths-based approach of this study. Resilience can be defined as “good outcomes in spite of serious threats to adaptation or development” (Masten, 2001, p.2). While individual factors such as good self-esteem and self-efficacy are recognised as important (e.g. Masten, 2001, 2009), resilience is increasingly conceptualised as a dynamic process involving complex interactions between personal qualities of individuals, supportive interpersonal relationships and broader structural and community support across the life course (Hart, Stubbs & Plexonsakis, 2015; Masten, 2001; Rutter, 2007, 2012). In fact, young people who have experienced maltreatment may be less able to rely on internal resources such as self-esteem, and be more reliant on external support and structures for positive outcomes (Ungar, 2013a).

Ecological Systems Theory (Bronfenbrenner, 1979, 2005; Bronfenbrenner & Morris, 2006) emphasises the way in which *interactions* between an individual and their social and environmental contexts shape developmental outcomes, both positively and negatively. The young person is conceptualised as being at the centre of multiple inter-related systems, and reviews of resilience have provided support for resilient functioning in maltreated children being associated with factors within multiple contexts including the family, close friendships and opportunities for constructive

activities (Haskett, Nears, Sabourin Ward, & McPherson, 2006; Schofield et al., 2015). In this study, we focus on these systems closest to the child – what are termed microsystems – particularly the peer context where both close friendship quality and loneliness within the wider school peer group are considered as well as informal recreational time with friends, while also taking into account sense of support from adults and family leisure activities. We hypothesise that interactions and support within these different contexts will have distinct associations with mental health outcomes, both directly, and via self-esteem and self-efficacy. Our key aim is to identify how relationships and interactions within the peer microsystem predict both mental health problems and positive well-being outcomes over and above adult support.

### **The Importance of the Peer Context for Mental Health and Well-being**

**Relationship quality.** The quality of CLA's peer relationships is likely to be a key antecedent of variations in their mental health and well-being (Price & Brew, 1998), but it is important to recognise that these are multi-faceted constructs that may be connected with each other in complex ways. On the one hand, peer relationships can be measured along both positive (e.g., support, acceptance) and negative (e.g., conflict, exclusion) dimensions, and they can also vary in terms of whether they concern intimate dyadic relationships or broader feelings about the peer group in general. At the same time, early indicators of mental health *problems* can be dissociated from markers of positive well-being (Suldo & Huebner, 2006; Weich et al., 2011). Investigations of how these variables relate to each other in the population of children looked-after is at a very early stage, although there is evidence to support their distinction. Research by Lee, Simkiss and Keegan (2015) found no clear relationship between well-being and mental health problems in a cohort of looked-after children, so identifying differential associations with both outcomes is important.

Although peer relationships are recognised as an area of difficulty for children who have experienced maltreatment (e.g. Anthonysamy & Zimmer-Gembeck, 2007; Salzinger et al., 1993; Jaffee, Caspi, Moffitt & Taylor, 2004; Kim & Cicchetti, 2010), there is emerging evidence that close relationships with peers can serve a crucial protective function for many children in the care system and that positive aspects of close or best friendship have protective effects distinct from broader peer group acceptance and rejection (Howe & Parke, 2001). Positive, reciprocal friendships have been found to moderate the relationship between maltreatment and self-esteem (Bolger, Patterson & Kupersmidt, 1998) and buffer against poorer outcomes such as anxiety and physically aggressive behaviour (Legault et al., 2006).

Conversely, negative aspects of peer relationships, such as negative qualities of dyadic relationships and loneliness within the peer group at school, may enhance risk for mental health problems and reduce well-being in children and adolescents (Bukowski, Buhrmester & Underwood, 2011; Burk & Laursen, 2005; Heinrich & Gullone, 2006; La Greca & Harrison, 2005). Negative aspects of dyadic best friendship may be more salient for maltreated children (Howe & Parke, 2001; Parker & Herrera, 1996) and reported levels of loneliness are often high among CLA and care leavers (Knight, Chase, Aggleton, 2006; Stein, 2006). To date, loneliness has received more attention, with one longitudinal study with adolescent girls involved with the Child Welfare System finding significant bidirectional effects between loneliness and depression (Lalayants & Prince, 2015), and another with younger maltreated children finding loneliness significantly mediated the relationship between maltreatment and internalising and externalising symptoms, both concurrently and longitudinally (Appleyard, Yang & Runyan, 2010). However, a previous study by the current authors with non-looked-after adolescents that tested unique effects of loneliness and negative

best friendship quality found distinct concurrent associations with mental health problems and well-being, emphasising that both should be explored with this population (Drew & Banerjee, in Paper 2).

**Social activities with peers.** During early adolescence, spending time with peers becomes increasingly important, and friendships can both encourage participation in activities, and grow out of such participation (Daly & Gilligan, 2005). Participation in every day leisure activities with others provides an important context for promoting resilience, social development, educational progress and better mental health (Conn, Calais, Szilagyi, Baldwin & Jee, 2014; Gilligan, 1999; Gilligan, 2007) and the voices of CLA in research attest to the importance of meaningful leisure time activities (Gibson & Edwards, 2015; Hollingworth, 2012). Although bidirectional effects are likely, this study particularly focuses on the role of social activities as potential antecedents to peer relationship quality, self-concept and mental health and well-being in CLA. Participation has the potential to develop social networks especially beyond the care system, facilitate continuity in interests and social ties even when other aspects of the young person's world change, and build self-esteem, sense of competence and educational participation (Fong, Schwab & Armour, 2006; Hollingworth, 2012; Quarmby, 2014), all of which are associated with more resilient outcomes.

Specifically, we account for different associations between general activities with family and friends (i.e. in sporting and extra-curricular activities; time spent in activities at home) and less structured free time activities with friends (i.e. unsupervised 'hanging out'). In studies with adolescents not looked-after, the latter has been associated with lower school grades and more conduct problems (McHale, Crouter & Tucker, 2001; Osgood, Wilson, O'Malley, Bachman & Johnson, 1996), and poorer wellbeing and mental health particularly as frequency increases or when the age of

associates is much older than oneself (Black & Martin, 2015), while more structured activities such as belonging to groups or clubs, and school based extra-curricular activities have been associated with more positive outcomes such as academic achievement, better mental health and well-being and improved self-concept (Black & Martin, 2015; Farb & Matjasko, 2012; Feldman & Matjasko, 2005). However, the only study with CLA to find activities with friends were related to delinquency and negative outcomes did not discriminate between structured and unstructured activities, and the authors note this and the lack of longitudinal analysis as a limitation of the research (Farineau & McWey, 2011). These findings hint at a complex picture between activities and outcomes, where certain activities may not buffer against negative outcomes, or inadvertently exacerbate them, possibly due to the type of peers being associated with through the activity.

### **Mediating Effects of Self-Concept**

The term self-concept can incorporate many dimensions (Shavelson & Bolus, 1982), but the importance of self-esteem and self-efficacy in the context of supportive relationships is emphasised in the research into resilient outcomes for maltreated children and CLA (Afifi & MacMillan, 2011; Collishaw, Pickles, Messer, Rutter, Shearer & Maughan, 2007; Haskett et al., 2006; Schofield et al., 2005; Taussig, 2002) and in policy documents focused on promoting the health and well-being of young people in care (e.g. DfES & DoH 2009; NICE/SCIE, 2010/2013). Global self-esteem, defined as an individual's overall sense of self-regard and self-acceptance (Harter, 1993; Rosenberg 1965), has strong associations with mental health (e.g. Legault et al., 2006; Mann, Hosman, Schaalma, & de Vries, 2004; Kim, 2003), is negatively impacted by maltreatment (Bolger et al., 1998; Egeland, Sroufe & Erickson, 1983; Shen, 2009) and can be lower in people who have experienced foster care (Luke & Coyne, 2008), so it is

an important aspect of self-concept to consider in relation to the mental health of CLA. Furthermore, developing a more fine-grained understanding of the association between different aspects of the peer context and self-esteem is timely given that previous research with adolescents in foster care found peer relationships impacted self-esteem more strongly than either relationships with biological mothers or foster parents (Farineau, Stevenson, Wojciak & McWey, 2013)

However, global self-efficacy beliefs, an individual's set of beliefs about their ability to take control over their own performance and to influence the events that occur in their lives (Bandura 1994, 1997), are likely to play an important protective role in mental health outcomes for CLA, distinct from self-esteem. Self-efficacy is closely associated with eudaimonic aspects of well-being (e.g., Selwyn & Wood, 2015), and in studies with non-looked-after adolescents and young people is a powerful predictor of mental health (Parto & Besharat, 2011), and a mediator between loneliness and subjective well-being (Tu & Zhang, 2014) and between social support and psychosocial adjustment (Vieno, Santinello, Pastore & Perkins, 2007). Self-efficacy has also been found to mediate the association between maltreatment and health problems among older adults (Sachs-Ericsson, Medley, Kendall-Tackett & Taylor, 2011), while a self-determination enhancement intervention, focused on supporting youth in foster care with goal setting, planning, problem-solving and decision making - all of which are similar components to those underpinning self-efficacy – reduced depression and anxiety (Geenen et al., 2013). Furthermore, we anticipate that the peer context will be important for self-efficacy too, since social role models, including peers in the school setting, play a powerful role in the development of this aspect of self-concept (Bandura 1997; Usher & Pajares, 2006). Peers may be even more important during school

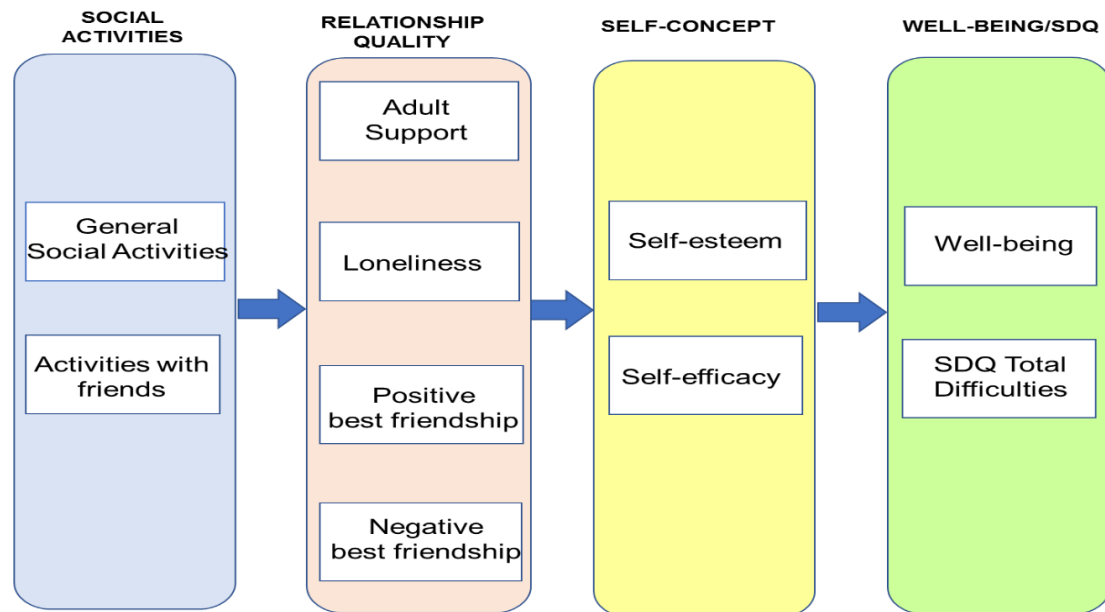
transition periods when children appear to be especially tuned to making social comparisons (Eccles, Midgley, & Adler, 1984).

Self-esteem and self-efficacy are both likely to mediate the association between peer relationships and mental health and well-being, as the peer context becomes increasingly important to sense of identity and self-concept in adolescence. Self-esteem has already been identified as an important mediator between peer relationships and mental health problems, including both internalising and externalising behaviours, (Thompson, Wojciak & Cooley, 2016), but identifying more precisely whether and to what extent self-efficacy mediates the association between dyadic best friendship and loneliness, and mental health problems and wellbeing, over and above broader self-esteem, has the potential to facilitate more specific support for those children who need it. Furthermore, this study explores interactions between relationship quality and these two dimensions of self-concept to see whether relationship qualities moderate the association between self-concept and increased well-being and mental health over time. Given that the resilience literature has emphasised the importance of external resources to CLA (e.g. Ungar, 2013a), we aim to identify if any protective effects are enhanced when self-esteem and self-efficacy are high and relationship quality is high.

### **Present Study**

The present study, carried out with a sample of 10-to-14-year-old CLA in foster care, allowed us to test the model shown in Figure 1. We explored how social activities, relationship quality and self-concept were related to well-being and mental health problems, including mediated pathways, while we examined whether any of these variables predicted longitudinal changes in well-being and mental health problems.





*Figure 3.1.* Model of the associations between variables measuring social activities, relationships, self-concept and well-being and mental health (SDQ Total Difficulties). Additional self-concept variables of empathy and sense of school achievement and engagement were included as control variables.

Participants initially completed self-report questionnaires, and then did so again at a follow up at least one year later. At Time 1 a preliminary analysis using comparison data from another study with non-CLA was carried out (Drew & Banerjee, in Paper 2) to explore any differences between the two groups. We anticipated that CLA would have higher levels of mental health problems and lower well-being, that negative aspects of peer relationships (loneliness and negative best friendship) may be higher and that activities with friends and general social activities would be lower. Gender and age-related differences within the looked-after child group were also identified. However, our key focus was developing a better understanding of resilient outcomes and the factors associated with individual differences within the population of children looked after in foster care.

Firstly, we modelled cross-sectional associations between variables measuring social activities, relationship quality, self-concept and mental health outcomes, to gain a more nuanced picture of how social-contextual and psychological variables were

differentially associated with mental health problems (SDQ scores) and positive well-being. Secondly, we used longitudinal regression analyses and moderation analyses to identify the most important predictors of changes in mental health and well-being during the transition period, with attention to possible interactions between relationship and self-concept variables.

Specifically, we hypothesized that there would be significant cross-sectional associations between peer support and mental health problems (SDQ Total Difficulties) and well-being, mediated by self-esteem and self-efficacy, over and above the associations with adult support and social and academic motivation. When considering the peer context, we predicted that there would be distinct associations between dyadic best friendship and loneliness and psychological adjustment, mediated by self-esteem and self-efficacy, and that the negative aspects of peer relationships (negative best friendship qualities and loneliness) would have stronger indirect associations with mental health problems, while positive best friendship qualities would have stronger indirect associations with well-being. Finally, we predicted that general social activities, incorporating more structured activities with friends and family, would have positive associations with relationship quality, while less structured every-day activities with friends would have significant associations over and above this with peer relationship variables. We did not make specific predictions about whether these associations would be positive or negative because the literature currently presents a mixed picture.

With respect to longitudinal change, we explored the extent to which activities, relationship quality and self-esteem and self-efficacy predicted changes in mental health problems (SDQ) and well-being. We anticipated that the most proximally relevant predictors would be self-esteem and self-efficacy and so also examined whether the variables measuring relationship qualities, particularly peer relationship qualities,

moderated the associations between self-concept and psychological adjustment. In particular, we anticipated that combinations of high relationship quality and positive self-concept (external and internal resources to support resilience) would interact to predict better lower mental health problems and higher well-being.

## **Method**

### **Participants**

Participants were looked-after children in foster care and in mainstream schools in the final year of primary school (Year 6; age 10-11), and the first two years of secondary school (Year 7; age 11-12 and Year 8; age 12-13). They were recruited via the Virtual Schools for Children in Care who oversee the education of looked-after children. Twenty Virtual Schools became involved with the project: two in the North East; two in the South West; eight in the South East; three in Outer London; one in the East Midlands; one in the West Midlands and two in the North West regions. Twelve of these Virtual Schools also contributed to a multi-agency planning group for the research project. In total 166 schools returned Head Teacher consent for the research to take place in their schools across the 20 local authorities, with 79 of these schools completing questionnaires with one or more looked-after pupils. In total one hundred and five looked-after children in foster care participated in mainstream schools during Time 1 of this study in Year 6 ( $n = 26$  male, 14 female), Year 7 ( $n = 20$  male, 18 female) and Year 8 ( $n = 10$  male, 17 female). The number who participated from each local authority ranged from 1 to 18, with a mean of 5.2 (median = 4) pupils per local authority. Schools had the option of obtaining parent and pupil consents for up to five classmates of the same age and gender as the CLA to avoid singling out CLA, but not

enough schools chose this option to provide a robust comparison sample. The three schools who participated in a related study (Drew & Banerjee, in Paper 2) therefore provided a comparison sample for this study. The Time 1 phase of data collection that provided comparison data for this study took place between January and March 2016.

At Time 2, 83 CLA were successfully followed up into a further school year<sup>4</sup>. ANCOVAs showed no significant differences on any of the measures between those who participated across both time points and those who only participated only at Time 1 ( $ps > .05$ ).

## Measures

***Social Activities.*** A range of items to measure social activities were developed for this study. The first five items asked children how often they took part in general every day activities (e.g. ‘How often do you talk to your parent / carer about what you have done during the day?’ and ‘How often do you have a friend round to your house?’) These items were measured on a five-point likert scale from every day (1) to less than once a month (5). A further five items asked children whether they had taken part in a series of activities during the last three months (e.g., ‘Been swimming/skating/cycling/bowling or some other group sporting activity’) on a three-point scale ‘Yes’, ‘No’, ‘Not sure’. Two further items asked about participation in

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<sup>4</sup> In Year 7 twenty-eight students participated (n = 19 male, 9 female), in Year 8 thirty students (n = 17 male, 13 female), in Year 9 twenty-four students (n = 8 male, 16 female) and 1 female in Year 10. It should be noted that this student originally participated in Year 8, and four female students from the original Y7 cohort were not followed up until Year 9, rather than Year 8, and so are included here in the Y9 totals rather than the Year 8. The 22 looked-after children who were not followed into a second school year were withdrawn for the following reasons: 12 students could not participate because either a new or existing school did not support completion, 4 no longer consented to participate, 2 had a change in care status and the researchers were unable to obtain new consents, one was currently excluded from school, one had entered specialist school provision that had not included a primary to secondary transition, one was deemed too distressed to be included by school staff and one because researchers were unable to obtain up to date information regarding current school placement.

extra-curricular activities and the frequency of meeting up with friends in school holidays. Because these items used different scales, proportional scores were calculated to enable comparability, with scores then ranging from 0 to 1. Two factors based on a previous factor analysis (Drew & Banerjee, in Paper 2) were used: ‘Activities with Friends’: having a sleepover, having a friend round to their house, going to a friend’s house, meeting with friends in school holidays (Time1  $\alpha = .75$ ; Time2  $\alpha = .71$ ) and ‘General Social Activities’: doing things together at home with family, talking to parent/carer, frequency of clubs and extra-curricular activities; going to park or for picnic with others; going on trips with others such as cinema, theatre, zoo’ etc. (Time 1  $\alpha = .43$ ; Time 2  $\alpha = .38$ )

### **Relationship Quality.**

**Adult support.** This four item scale was developed for this study to measure sense of support and engagement with adults (e.g., ‘There is at least one teacher or other adult in school who I can talk to if I have a problem’; ‘There is at least one adult in my life who cares about my feelings’). Items are measured on a five-point likert scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (5) (Time 1  $\alpha = .72$ ; Time 2  $\alpha = .77$ )

**Best Friendship.** The Best Friend Index (Kouwenberg, Rieffe & Banerjee, 2013) was used to assess positive and negative features of close friendship. The scale asks children to rate qualities of their best friendship. It has nine items referring to positive aspects of friendship such as companionship, disclosure, support, and affection/admiration (e.g., ‘My friend and I do enjoyable things together’) (Time 1  $\alpha = .91$ ; Time 2  $\alpha = .93$ ) and nine items measuring negative features such as conflict, dominance, jealousy, and betrayal (e.g., ‘My friend says mean things about me to

others') (Time 1  $\alpha = .82$ ; Time 2  $\alpha = .86$ ). Items are measured on a five-point scale ranging from 'never' (1) to 'very often' (5).

***Loneliness.*** The Loneliness Questionnaire – Short Version (Ebesutani, Drescher, Reise, Heiden, Hight, Damon & Young 2012) was used to measure loneliness, particularly in the school setting. A shortened version of the original Loneliness Questionnaire (Asher, Hymel & Renshaw 1984), it uses only the 9 non-reverse coded items (e.g., 'I don't have anyone to play with at school'; 'I am lonely at school') and a three-point likert scale ranging from 'not true at all' (2) to 'always true' (3). (Time 1  $\alpha = .89$ ; Time 2  $\alpha = .87$ ) Five positive filler items were included (e.g., 'I like school'), but were not included in the analysis.

#### **Self-concept.**

***Self-esteem.*** A four item adapted version of Harter's (1988) Self-Perception Profile for Adolescents (SPPA) was used to measure self-esteem (e.g., 'I like the kind of person I am'). A simple four-point likert scale from 'not at all true' (1) to 'very true' (4) replaced the original rating scale because it has better reliability and validity (Wichstrøm 1995) (Time 1  $\alpha = .73$ ; Time 2  $\alpha = .74$ )

***Self-efficacy.*** A shortened six-item form of the General Self-Efficacy scale (Schwarzer & Jerusalem 1995) was used (e.g., 'I can solve most problems if I put in the necessary effort'). Items were measured on a four-point scale from 'not at all true' (1) to 'very true' (4) (Time 1  $\alpha = .84$ ; Time 2  $\alpha = .89$ )

***Sense of school achievement and engagement.*** A three-item measure designed for this study was used. The three items were 'I feel that the things I am learning at school will be useful when I am older', 'I try to do my best work at school' and 'I achieve my goals or targets at school' and were measured on a five-point likert scale from 'never' (1) to 'always' (5). (Time 1  $\alpha = .60$ ; Time 2  $\alpha = .62$ )

***Empathy.*** The prosocial tendency subscale of the Empathy Questionnaire (Pouw, Rieffe, Oosterveld, Huskens & Stockmann 2013) was used to measure prosocial empathy (e.g., ‘When one of my friends is upset, I want to comfort him or her’). Items were measured on a three-point likert scale from ‘not true’ (1) to ‘often true’ (3). (Time 1  $\alpha$  = .86; Time 2  $\alpha$  = .87)

### **Mental health problems and well-being.**

***Strengths and Difficulties Questionnaire (SDQ).*** The self-report version of the Strengths and Difficulties Questionnaire (Goodman, Meltzer & Bailey 1998) was used as a screening measure of mental health problems. This 25 item measure produces five subscales: Emotional Symptoms (e.g., ‘I am often unhappy, downhearted or tearful’), Conduct Problems (e.g., ‘I get very angry and often lose my temper’), Hyperactivity / Inattention (e.g., ‘I am constantly fidgeting or squirming’), Peer Relationship Problems (e.g., ‘Other children or young people pick on me or bully me’) and Prosocial Behaviour (e.g., ‘I am kind to younger children’) all measured on a three-point likert scale from ‘not true’ (1) to ‘certainly true’ (3). The first four scales combine to form a Total Difficulties score which has been used in this study (Time 1  $\alpha$  = .86; Time 2  $\alpha$  = .88). To provide cross-informant validity, teachers of CLA also completed the parent/teacher version of the SDQ (Goodman, 1997), which produces the same five subscales as the self-report version, with the first four scales combining to form a Total Difficulties Score. It should be noted that the two Total Difficulties Scales, both teacher and self-report, were robustly correlated (Time 1  $r$  = .51; Time 2  $r$  = .48), replicating previous research (Muris, Meester, & van den Berg, 2003). An additional teacher report scale – the Mulberry Bush Emotional and Social Development scale – was also

completed and used for piloting purposes in developing a new scale. Further information about the teacher scales is available in supplementary information.

***Well-being.*** The Short Warwick-Edinburgh Mental Wellbeing Scale (Stewart-Brown, Tennant, Tennant, Platt, Parkinson & Weich 2009) is a seven item measure that predominantly measures psychological and eudaimonic aspects of well-being (e.g., ‘I’ve been feeling optimistic about the future’; ‘I’ve been dealing with problems well’). Items are measured on a five-point likert scale from ‘never’ (1) to ‘all the time’ (5). (Time 1  $\alpha = .85$ ; Time 2  $\alpha = .84$ )

## **Procedure**

Ethical approval for this study was granted by the University of Sussex. Participating Virtual Schools provided contact details of primary and secondary mainstream schools who had CLA in foster care in school years 6, 7 and 8, placed by their local authority. Over 1,000 schools were emailed between March 2015 and April 2016 with attached information sheets and a head teacher consent form explaining the research project and inviting them to participate. Once head teacher consent was received, the carer, CLA and social worker were provided with information sheets and consents were obtained.<sup>i</sup> All consents gave permission for participation across two time points, with pupils being followed up again 12 months after Time 1 completion. For those CLA who had transitioned into new schools at Time 2, new head teacher consent was obtained, and where care status had changed new carer/parental consents were obtained.

At both time points, schools were sent either links to online questionnaires or paper-based copies if preferred. Detailed briefing sheets were provided for the adult in the school who was supporting completion, and pupils were asked for their consent



again and reminded of their right to withdraw. After completion, pupils were debriefed and provided with information sheets regarding sources of support. A teacher or other member of staff who knew the pupils well was asked to complete the teacher questionnaires for the looked-after pupil and any matched classmates who were completing with them to ensure they did not feel singled out. These were not completed for the pupils in the comparison sample in Paper 2.

## **Results**

Following a preliminary analysis to identify differences between CLA in foster care and a comparison sample, our key focus was a path analysis to better understand the associations between social activities, relationship quality, self-concept and mental health and well-being outcomes, as well as testing mediating pathways. Due to the limitation of only having two time-points, mediation effects could not be tested longitudinally, but the predictive value of Time 1 social and psychological variables as antecedents of change over time in well-being and mental health problems were tested, along with the predictive effects of interactions between relationship quality and self-efficacy or self-esteem.

Table 3.1 shows descriptive statistics for all variables in the analysis for looked-after pupils and comparison pupils.

Table 3.1

*Means and standard deviations of variables for CLA pupils and comparison sample*

Variables	Possible Range	CLA pupils Mean (SD)	Comparison Sample Mean (SD)
General Social Activities	0 -1	.74 (.19) +	.78 (.19)
Activities with Friends	0 -1	.40 (.29) *	.53 (.27)
Adult Support	1 - 5	4.35 (.70)	4.21 (.65)
Loneliness	1 - 3	1.41 (.43) +	1.35 (.37)
Positive Best Friendship	1 - 5	3.96 (.84)	4.06 (.68)
Negative Best Friendship	1 - 5	1.78 (.63)	1.70 (.58)
Self-esteem	1 - 4	3.13 (.68) +	3.23 (.65)
Self-efficacy	1 - 4	2.92 (.62)	2.95 (.58)
Sense of school achievement/engagement	1 - 5	3.96 (.72)	3.89 (.65)
Empathy	1 - 3	2.63 (.44)	2.65 (.36)
Wellbeing	1 - 5	3.66 (.80)	3.61 (.72)
SDQ Total Difficulties	1 - 3	1.70 (.33) *	1.60 (.31)
SDQ Emotional Symptoms	1 - 3	1.73 (.49)	1.73 (.50)
SDQ Conduct Problems	1 - 3	1.55 (.37) *	1.41 (.35)
SDQ Hyperactivity/Inattention	1 - 3	2.00 (.48) *	1.82 (.48)
SDQ Peer Relationship Problems	1 - 3	1.50 (.40) *	1.42 (.37)
SDQ Prosocial Behaviour	1 - 3	2.63 (.35)	2.59 (.35)
Note:		N's ranged from 103 - 105	N's ranged from 534 - 552

\*Denotes a significant ( $ps < .05$ ) and + approaching significant ( $ps < .10$ ) main effect of group in ANCOVAs controlling for year group (age) and gender.

### Differences between looked-after children and comparison sample

We ran ANCOVAs on each of the test variables controlling for year group (age) and gender. Children looked-after were significantly lower than the comparison group on activities with friends,  $F(1, 645) = 18.98, p < .001$ , and the tendency to be lower on general social activities,  $F(1, 649) = 3.42, p = .07$  and self-esteem,  $F(1, 637) = 3.17, p = .08$ , approached significance. They were also significantly higher on the SDQ Total Difficulties scale,  $F(1, 645) = 10.66, p = .001$ .<sup>5</sup> The tendency to be higher on loneliness

<sup>5</sup> CLA were also significantly higher on the SDQ subscales for conduct problems,  $F(1, 644) = 15.80, p < .001$ , hyperactivity/inattention,  $F(1, 644) = 12.21, p = .001$  and peer relationship problems,  $F(1, 644) = 4.80, p = .029$ . Further analyses of the SDQ scales, controlling for loneliness and self-esteem in addition to year group (age) and gender, still showed a significant effect of CLA status for conduct problems,  $F(1, 632) = 12.51, p < .001$  and hyperactivity/inattention,  $F(1, 631) = 8.89, p = .003$ . However, there was no longer a significant difference on the SDQ peer relationship problems subscale,  $F(1, 632) =$

also approached significance,  $F(1, 640) = 3.13, p = .08$ . There were no other significant differences.

### Associations between variables

The correlations between all the variables used in this study are reported below.

Correlations between variables from the pupil questionnaires (Table 3.2) reveal numerous correlations between social activities, relationship quality, self-concept, and wellbeing and SDQ Total Difficulties outcomes.

Table 3.2

*Zero Order correlations between variables – CLA sample only*

	1	2	3	4	5	6	7	8	9	10	11	12
1.General Social Activities	.12	.32**	-.14	.37***	.03	.12	.14	.29**	.14	.16	-.09	
2.Activities with Friends		-.15	-.16	.05	-.03	-.10	-.01	-.22*	-.09	-.02	-.09	
3.Adult Support			-.23*	.46***	-.27**	.32**	.34***	.58***	.37***	.34***	-.23*	
4.Loneliness				-.32**	.38***	-.42***	-.32**	-.24*	-.13	-.30**	.66***	
5.Positive Best Friendship					-.19*	.13	.31**	.52***	.38***	.39***	-.26**	
6.Negative Best Friendship						-.39***	-.11	-.06	-.12	-.06	.50***	
7.Self-esteem							.40***	.34***	.12	.38***	-.62***	
8.Self-efficacy								.58***	.44***	.73***	-.44***	
9.School achievement									.47***	.55***	-.34***	
10.Empathy										.54***	-.17	
11.Wellbeing												-.36***
12.SDQ Total Difficulties												

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

1.40,  $p = .24$ , suggesting that most of this difference was accounted for by differences in loneliness and self-esteem.

The correlations between self-report and teacher report SDQ scales, and between SDQ scales and the Mulberry Bush emotional and social development scale are shown in supplementary information.

### **Pathways to mental health problems and well-being**

We used structural equation modelling to examine the associations among the pupil reported variables. Year group (age) and gender were controlled for in our analyses, predicting all variables. We also allowed variables within sections of the model (social activities; relationship quality; self-concept; mental health problems and well-being) to co-vary to allow for variables outside of this model that could have influenced these relationships.

We used the following absolute fit indices: the chi-square; the root-mean-square error of approximation (RMSEA), the comparative fit index (CFI), and the standardized root-mean-square residual (SRMR). The chi square should ideally be non-significant in a good model; for the RMSEA, values below .05 indicate a very good fit (Steiger, 1990), for CFI values above .95/.96 indicate good fit (Bentler, 1990) and for SRMR values below .08 indicate good fit (Hu & Bentler, 1999).

We began with the conceptual model discussed in the introduction, including all paths between activities and relationship variables, between relationship and self-concept variables and between self-concept and mental health problem/ well-being variables. Other paths were added in if indicated by modification indices, and then finally non-significant paths were removed ( $ps > .10$  given the relatively small sample size), leaving the final model shown in Figure 3.2.

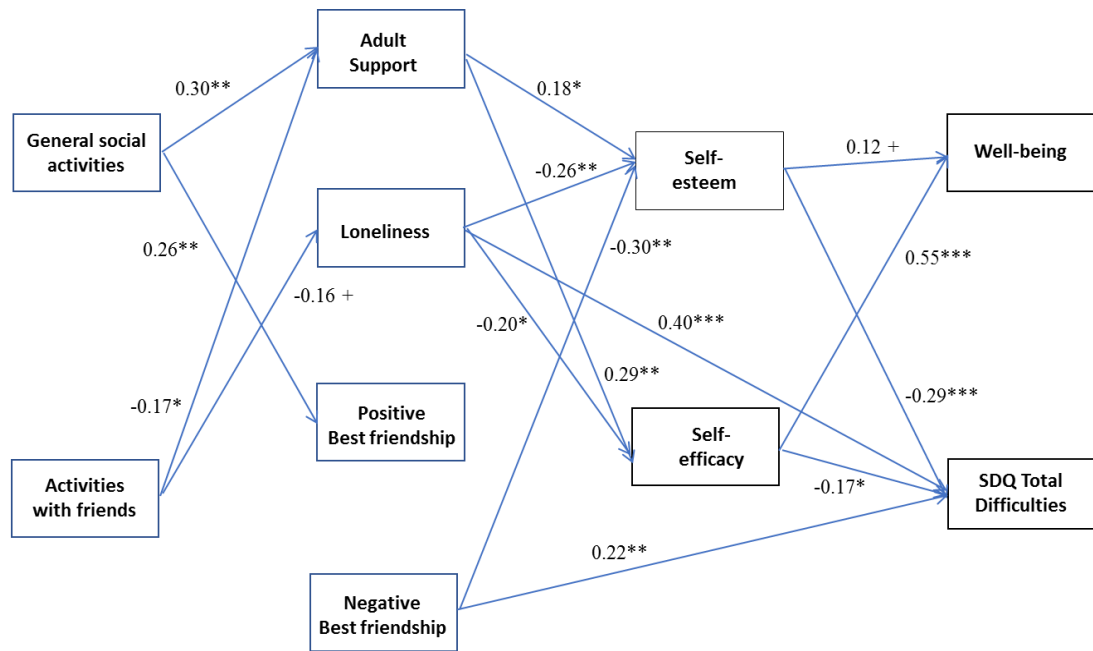


Figure 3.2. Model showing significant relationships between activities, relationships, self-concept and well-being and mental health (SDQ Total Difficulties). Error terms, covariances and age and gender are not shown in the model to aid clarity. However, as age increased there was a significant decrease in sense of adult support, school sense of achievement and empathy, and females were significantly higher on prosocial empathy and loneliness than males. Empathy and Sense of School Achievement and Engagement were included as control variables and significant pathways involving these variables are included in supplementary information.

Overall model fit for the model shown in Figure 3.2 was very good.  $\chi^2 (42) = 39.12$ ,  $p = 0.60$ ; RMSEA = 0.00, CFI = 1.00; SRMR = 0.06. As predicted, results show different associations for our two outcomes of SDQ Total Difficulties and well-being. Lower self-esteem and self-efficacy predicted higher SDQ scores, while higher self-efficacy predicted better well-being. As predicted the negative aspects of peer relationships – negative best friendship qualities and loneliness - both had positive associations with SDQ Total Difficulties scores, but no corresponding direct negative relationship to well-being. In terms of interpersonal relationships, adult support was a significant predictor of all self-concept variables, but interpersonal relationships with peers had effects over and above this. Specifically, negative best friendship quality had negative associations with self-esteem, and loneliness had negative associations with both

self-esteem and self-efficacy. Distinctive associations were found for the two measures of social activities. Higher activities with friends had negative associations with adult support, but also a negative association with loneliness that was approaching significance. In contrast, general social activities had positive associations with positive best friendship and adult support.

Using this model, we then evaluated our hypothesized indirect (mediated) pathways, using 1,000 bootstrap samples so that 95% confidence intervals could be estimated. For these analyses, we accounted for the direct effects of the initial variable on the outcome variable even if they had been non-significant.

This study identified that there were no significant mediated pathways from activities with friends to either SDQ Total Difficulties or well-being, but there was a positive indirect effect of general social activities on well-being via adult support and self-efficacy that was approaching significance,  $B = .05$ ,  $p = .07$ ,  $[-.00, .10]$ . Our predictions that relationship quality with peers and adults would predict higher well-being and lower SDQ Total Difficulties via self-concept variables was partially supported. For well-being, there were significant positive indirect effects from adult support via self-efficacy,  $B = .16$ ,  $p = .002$ ,  $[.06, .26]$  and a significant negative indirect effect from loneliness via self-efficacy,  $B = -.11$ ,  $p = .03$   $[-.21, -.01]$ . However, there were no significant indirect effects from positive best friendship quality or negative best friendship quality to well-being. For SDQ Total Difficulties, there was an indirect effect from adult support via self-esteem,  $B = -.06$ ,  $p = .05$   $[-.11, .00]$  and via self-efficacy,  $B = -.05$ ,  $p = .07$   $[-.10, .00]$ , which was approaching significance. There were also significant indirect effects from loneliness to SDQ Total Difficulties via lower self-esteem,  $B = .08$ ,  $p = .04$   $[95\% \text{ CI } .00, .16]$ , and negative best friendship quality via

lower self-esteem,  $B = .09$ ,  $p = .01$  [95% CI .02, .16]. However, positive best friendship quality did not have any significant indirect effects on SDQ scores.

### **Longitudinal Analysis**

Table 3.3 shows the correlations among all the self-report variables from Time 1 to Time 2. The stability coefficients ranged from low to moderately high, with the highest stability for self-efficacy, sense of school achievement and engagement and SDQ Total Difficulties ( $r = .58$ ,  $p < .001$ ) and the lowest for loneliness ( $r = .20$ , ns). The table also shows numerous cross-time correlations between the variables concerning social activities, relationship quality, self-esteem and self-efficacy, and well-being and mental health problems.

Table 3.3

*Correlation matrix showing zero order correlations between Time 1 and Time 2 variables, and partial correlations between Time 2 Well-being and Time SDQ Total Difficulties and Time 1 variables.*

	TIME 2												Partial Correlations <sup>1</sup>	
	1	2	3	4	5	6	7	8	9	10	11	12	Well-being	SDQ Totdiff
TIME 1														
1.General Social Activities	<b>.24*</b>	.07	.16	.07	.14	.12	.08	.29**	.14	.20	.06	-.02	-.10	.11
2.Activities with Friends	-.05	<b>.43***</b>	-.04	-.06	-.16	-.24*	.07	-.06	-.10	.05	-.07	-.14	-.07	-.02
3.Adult Support	.31**	.04	<b>.29**</b>	-.07	.19	-.09	.21	.21	.35**	.26*	.17	-.08	-.03	.04
4.Loneliness	-.14	-.21	-.12	<b>.20</b>	-.20	.22*	-.22*	-.25*	-.18	-.14	-.27*	.41***	-.08	-.02
5.Positive Best Friendship	.06	.28*	.19	-.21	<b>.44***</b>	-.08	.17	.30**	.37***	.23*	.25*	-.27*	.03	-.05
6.Negative Best Friendship	-.12	-.06	.02	.13	-.12	<b>.32**</b>	-.19	-.01	.03	-.11	-.13	.27*	-.12	-.03
7.Self-esteem	.19	-.04	.13	-.15	-.09	-.12	<b>.26*</b>	.16	.20	.21	.26*	-.27*	.11	.04
8.Self-efficacy	.26*	.04	.51***	-.25*	.34**	-.20	.48***	<b>.58***</b>	.53***	.55***	.55***	-.27*	.26*	-.01
9.School achievement	.27*	.04	.43***	-.21	.25*	.13	.28*	.41***	<b>.58***</b>	.49***	.40***	-.17	.12	.04
10.Empathy	.14	.16	.37**	-.27*	.39***	-.11	.32**	.36**	.45***	<b>.53***</b>	.39***	-.20	.05	-.02
11.Wellbeing	.26*	.13	.41**	-.28**	.29**	-.12	.31**	.50***	.52***	.44***	<b>.55***</b>	-.33**	-	-
12.SDQ Total Difficulties	-.22	-.08	-.18	.30**	-.15	.32**	-.38***	-.29**	-.31**	-.20	-.35**	<b>.58***</b>	-	-



To evaluate the predictive value of Time 1 social and psychological variables as antecedents of change over time in well-being and mental health problems, we computed partial correlations between all Time 1 predictor variables and Time 2 well-being and SDQ Total Difficulties, controlling for age, gender, and the autoregressive effects of well-being and SDQ scores. From this analysis, self-efficacy emerged as the only significant overall positive longitudinal predictor of increased well-being over time. However, no significant overall predictors of change in SDQ Total Difficulties were found.<sup>6</sup>

We next evaluated the hypothesis that combinations of variables concerning relationship quality, self-esteem, and self-efficacy would predict changes in well-being and/or SDQ Total Difficulties. Thus, we examined whether and to what extent different levels of relationship support would moderate the longitudinal relationships between T1 self-esteem and self-efficacy on the one hand, and T2 well-being and SDQ Total Difficulties scores on the other. Hierarchical multiple regression analyses were carried out to evaluate these moderation effects. Separate analyses were conducted for predicting change in well-being and change in SDQ scores. In the first step age group, gender and the autoregressive effect of either well-being or SDQ at T1 were entered as covariates. Then, in step 2 we entered either self-esteem or self-efficacy and one of the four relationship variables (positive best friendship, negative best friendship, loneliness, and adult support). Finally, in step 3, we entered an interaction term for the variables entered in the previous step. The results of the regressions showed that self-esteem did

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<sup>6</sup> Partial correlations were also computed between T1 self-reported self-esteem and self-efficacy and T2 Teacher SDQ Total Difficulties and the T2 Mulberry Bush Emotional and Social Development scale Subscales, controlling for age, gender and autoregressive effects. Self-esteem was not a significant predictor of change in any of the teacher measures. Self-efficacy did not predict change in Teacher SDQ Total Difficulties or the Mulberry Bush Emotional Competence subscale but did predict changes in the Mulberry Bush Response to Adults subscale,  $r = .28, p = .02$  and Social Regulation subscale,  $r = .26, p = .04$ .

not significantly interact with any of the relationship quality variables in predicting either well-being or SDQ scores (all  $ps$  for interaction terms  $> .10$ ). However, we found that positive best friendship quality moderated the associations between self-efficacy and both well-being and SDQ total difficulties, and that negative best friendship quality and loneliness were approaching significance as moderators between self-efficacy and SDQ Total Difficulties, as shown in Table 3.4.

Table 3.4

*Hierarchical Regression Analysis showing significant moderations by relationship variables of SEf on Time 2 well-being and SDQ Total Difficulties*

Time 2 Dependent Variable											
Time 2 Well-being			Time 2 SDQ Total Difficulties			Time 2 SDQ Total Difficulties			Time 2 SDQ Total Difficulties		
<b>Block1</b>	$\Delta R^2$	.30***	<b>Block1</b>	$\Delta R^2$	.37***	<b>Block1</b>	$\Delta R^2$	.37***	<b>Block1</b>	$\Delta R^2$	.37***
Age group	$\beta$	-.02	Age group	$\beta$	-.05	Age group	$\beta$	-.05	Age group	$\beta$	-.05
Gender	$\beta$	.01	Gender	$\beta$	.15	Gender	$\beta$	.15	Gender	$\beta$	.15
Time 1 Well-being	$\beta$	.55***	T1 SDQ Total Difficulties	$\beta$	.59***	T1 SDQ Total Difficulties	$\beta$	.59***	T1 SDQ Total Difficulties	$\beta$	.59***
<b>Block 2</b>	$\Delta R^2$	.04*	<b>Block 2</b>	$\Delta R^2$	.01	<b>Block 2</b>	$\Delta R^2$	.00	<b>Block 2</b>	$\Delta R^2$	.00
SEf	$\beta$	.33*	SEf	$\beta$	-.00	SEf	$\beta$	-.02	SEf	$\beta$	-.02
Positive Best Friendship	$\beta$	.06	Positive Best Friendship	$\beta$	-.11	Negative Best Friendship	$\beta$	.00	Loneliness	$\beta$	.02
<b>Block 3</b>	$\Delta R^2$	.03*	<b>Block 3</b>	$\Delta R^2$	.07**	<b>Block 3</b>	$\Delta R^2$	.04*	<b>Block 3</b>	$\Delta R^2$	.03+
SEf x Positive Best Friendship	$\beta$	1.41*	SEf x Positive Best Friendship	$\beta$	-2.07**	SEf x Negative Best Friendship	$\beta$	1.05*	SEf x Loneliness	$\beta$	1.83+

+  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

We used the PROCESS macro (Hayes, 2012) to evaluate conditional effects for each of these interactions, identifying the nature of the relationship between self-efficacy and well-being or SDQ at low ( $-1$  SD), medium (mean), and high ( $+1$  SD) levels of relationship quality. First, positive best friendship quality significantly moderated the relationship between self-efficacy and well-being. There was no significant relationship at low levels of positive best friendship ( $B = .15$  (.22),  $p = .51$ , but at medium levels, self-efficacy was significantly positively related to well-being ( $B = .39$  (.18),  $p = .03$ ), increasing at high levels of positive best friendship, ( $B = .63$  (.21),  $p = .003$ ). Second, positive best friendship quality also significantly moderated the relationship between self-efficacy and SDQ Total Difficulties. At low levels of positive

best friendship, self-efficacy was significantly positively related to SDQ scores, ( $B = .18$  (.08),  $p = .03$ ), at medium levels there was no significant relationship ( $B = .01$  (.06),  $p = .81$ ), but at high levels of positive best friendship they were significantly negatively related ( $B = -.15$  (.07),  $p = .05$ ). Third, negative best friendship quality moderated the relationship between self-efficacy and SDQ Total Difficulties. At low levels of negative best friendship, self-efficacy was marginally significantly negatively related to SDQ scores ( $B = -.13$  (.08),  $p = .09$ ), at medium levels there was a non-significant negative relationship ( $B = -.02$  (.06),  $p = .70$ ), and at high levels there was a non-significant positive relationship ( $B = .09$  (.07),  $p = .24$ ). Finally, loneliness was a marginally significant moderator of the relationship between self-efficacy and SDQ Total Difficulties. At low levels of loneliness, there was a non-significant negative relationship between self-efficacy and SDQ scores, ( $B = -.10$  (.08),  $p = .19$ ), at medium levels a non-significant negative relationship ( $B = -.01$  (.06),  $p = .80$ ), and at high levels a non-significant positive relationship ( $B = .07$  (.08),  $p = .34$ ).

Significant predictors of change in Time 2 variables other than well-being and SDQ, along with significant interactions by age and gender, are reported in supplementary information.

## Discussion

Our findings supported the hypothesis that peer relationship variables would have significant associations with mental health problems and well-being over and above adult support, with distinct patterns of links for loneliness in the wider peer group setting and positive and negative aspects of dyadic best friendship. Our contention that it was important to consider self-efficacy in addition to self-esteem was also supported,

since although both had distinct concurrent associations with outcomes, self-efficacy was identified as an important longitudinal predictor of positive change in well-being, as well as of decreased mental health problems, when combined with high relationship quality.

### **The peer context**

As expected, a higher sense of adult support was important for all aspects of self-concept, predicting better concurrent well-being via self-efficacy and self-esteem, and lower SDQ scores via higher self-esteem. However, the fact that loneliness and negative aspects of dyadic friendship within the peer microsystem had distinct associations with mental health problems and well-being across these transition years *over and above* sense of adult support attests to the fact that relationships with peers are complex and supports distinct associations found with non-CLA populations (La Greca & Harrison, 2005; Parker, Rubin, Erath, Wojslawowicz & Buskirk 2006). Furthermore, these findings situate everyday mental health and well-being of CLA firmly within the context of interpersonal relationships, which is important given that these external resources are posited as being particularly important for resilient outcomes in young people who have experienced trauma and maltreatment (e.g. Ungar, 2013a).

For the first time, we establish that negative qualities in a best friendship have concurrent associations with mental health problems, both directly and via self-esteem. This reflects previous research studies with non-CLA that have identified that negative aspects of friendship enhance the risk for mental health problems and reduce well-being (Bukowski et al., 2011; Burk & Laursen, 2005; Drew & Banerjee, in Paper 2; Kenny, Dooley & Fitzgerald, 2013; La Greca & Harrison, 2005). However it may be a particularly important finding with this population, since children who are maltreated can be more at risk for difficulties in interpersonal relationships with peers due to

insecure attachments, aggression and difficulties with emotional regulation or withdrawal in peer contexts (Kim & Cicchetti, 2010; Teisl, Rogosch, Oshri & Cicchetti, 2012). Reviews of children in foster care have also highlighted an increased likelihood of negative behaviour that undermines peer relationships (Price & Brew, 1998). Tackling negative aspects in close friendships is therefore likely to provide a fruitful context for early intervention. Furthermore, loneliness within the school peer setting still had significant associations with higher mental health problems, both directly and mediated by lower self-esteem, and with lower well-being mediated by lower self-efficacy, even when accounting for adult support and close friendship. This extends previous research in this area (Farineau et al., 2013; Thompson et al., 2016) and supports previous assertions in reviews of loneliness that the connection with well-being is likely to be mediated by psychological mechanisms (see Peplau, Russell & Heim, 1979; Hawkey & Cacioppo, 2010). Identifying early those children who feel lonely at school and fostering wider peer group integration is therefore likely to be especially important in terms of fostering better mental health.

Contrary to our predictions, we did not find that close friendships rated as higher in positive aspects predicted better concurrent well-being or lower mental health problems, directly or mediated via self-esteem or self-efficacy. This is counter to findings from recent research carried out by the current authors with a large sample of children who were not in care, where positive best friendship had significant concurrent associations with both mental health problems and well-being (Drew & Banerjee, in Paper 2). This may reflect the fact that children in care sometimes develop what has been termed a survivalist sense of self-reliance that might support resilience, but can put at risk the formation of close relationships (Samuels & Pryce, 2008). Children may become less likely to invest in relationships as a result of instability brought about by

placement or school changes disrupting peer relationships, (Anderton, 2009; Emond, 2014) and barriers to intimacy with peers related to stigma around disclosing looked-after status (e.g. Rogers, 2016), potentially reducing the protective effect of close friendship. There is also the possibility, given our reliance on self-report questionnaires, that high scores on positive best friendship quality may not be genuinely reflective of true intimacy.

The fact that participation in social activities was antecedent to relationship quality in concurrent analyses, however, points to this as a context within which more positive peer relationships could be fostered, although important distinctions between general social activities and informal time spent with friends are evident. General social activities had positive associations with positive best friendship and adult support. They also longitudinally predicted positive change in self-efficacy for boys, reported in supplementary information. These findings give further empirical support to previous research that has identified that participation in extracurricular or out of school activities can offer the opportunity to develop wider friendships and affiliations, including friendships beyond the care system, boost self-efficacy and foster resilience (e.g. Daly & Gilligan, 2005; Gibson & Edwards, 2015; Hollingworth, 2012; Salmon & Rickaby, 2014). In contrast, it was participation in informal activities with friends that predicted lower concurrent loneliness. Furthermore, additional analyses, reported in supplementary information, found that activities with friends predicted reduced levels of negative best friendship over time in boys and in the average and older age children in our samples, highlighting the importance of not overlooking informal peer contexts.

Nonetheless, previous findings with young people not in care showing that unstructured time spent with friends may also have negative effects (Black & Martin, 2015; McHale et al., 2001; Osgood et al., 1996) was also apparent in this study, since

more time spent in activities with friends predicted a lower sense of adult support. As reported in supplementary information, higher levels of activities with friends also predicted lower sense of school achievement and engagement. Such complex associations emphasise that the context of the peer group is likely to be important. Children looked-after often suffer disruption to their relationships and social networks (Boddy, 2013a) and can find it hard to sustain meaningful friendships especially where placements are less secure (Perry, 2006; Ridge & Millar, 2000), so there is the potential for their social networks to be less positive, with some evidence that children in foster care have significantly more older friends than those in kinship care (Negriff, James, & Trickett, 2015) and that choices of friends within social networks are more atypical for children who have been maltreated (Salzinger et al., 1993).

### **Self-efficacy as a protective factor**

This study emphasises that enhancing self-efficacy may be a crucial factor in improving wellbeing and reducing mental health problems for CLA in these transition years. Self-efficacy was the key variable predicting longitudinal change in well-being, supporting previous findings from a large general population sample (Schonfeld, Brailovskaia, Bieda, Zhang & Margraf, 2016), but it was also important for predicting changes in mental health *problems* when moderated by peer relationship qualities of positive and negative best friendship and loneliness. These findings support an ecological systems approach that situates resilient outcomes within multiple contexts, with resilience not just a quality of an individual but rather a dynamic process involving interactions between personal qualities and interpersonal relationships (Hart, Stubbs & Plexonsakis, 2015; Rutter, 2012). Furthermore, it supports our contention that the pathways to reducing mental health problems would not necessarily mirror the

pathways to promoting positive well-being, reinforcing that good mental health is not the same as the absence of psychopathology (Keyes, 2007; Suldo & Shaffer, 2008; Weich et al., 2011).

There is widespread evidence that self-efficacy is negatively impacted by both maltreatment and neglect (Cheever & Hardin, 1999; Collishaw et al., 2007; Sachs-Ericsson et al., 2011; Turney & Tanner, 2006), so finding that high positive best friendship qualities interacted with high self-efficacy to both enhance well-being and reduce SDQ scores is an important finding. Since self-efficacy is our *conviction* that we have the capability to produce a desired outcome, influenced in part by modelling and encouragement by others (Bandura, 1977), the intimacy and support afforded by a good friendship may provide a particularly supportive context for the fostering of self-efficacy. Although an under-researched area, these findings extend previous findings with socioeconomically vulnerable adolescents where the effort sub-scale of self-efficacy was found to partially mediate the association between close friendships and resilience (Graber, Turner & Madill, 2016).

Negative aspects of peer relationships, however, suggest more complex patterns of interaction with self-efficacy. Low levels of loneliness and negative best friendship both interacted with higher self-efficacy to predict lower SDQ scores, but when both were high and self-efficacy was also high there was a pattern of *increasing* SDQ scores. One possible explanation is that because comparison with peers is identified as a strong predictor of self-efficacy (Macek & Jezek, 2007), children with higher self-efficacy may be particularly attuned to their relationships within the peer group, and potentially suffer more in terms of mental health in contexts where loneliness, jealousy, conflict and antagonism are high, even though self-efficacy alone is associated with better mental health. However, it may also be the case that some CLA have ‘defensive high self-



efficacy'. This may be similar to defensive self-esteem (Jordan, Spencer, Zanna, Hosino-Browne & Correll, 2003), where self-esteem reports are high but fragile and vulnerable to threat due to underlying low self-concept, leading to defensive self-promotion which has also been associated with aggression (Baumeister, Smart & Boden, 1996). This may be a particularly toxic combination within peer contexts where interactions are negative and warrants further investigation.

### **Limitations and future directions**

The longitudinal nature of this study allowed us to identify important predictive patterns for explaining changes in mental health problems and well-being among CLA in early adolescence. The results highlight the importance of self-efficacy as a predictor of increased well-being, and the moderating effects of peer relationship qualities on self-efficacy for increasing well-being and reducing mental health problems. However, the non-experimental nature of the design means that we cannot infer causality. We also acknowledge that although this study has involved a diverse national sample of CLA in foster care who are placed in mainstream education, it was beyond the scope of this research to control for other factors that have been associated with poorer outcomes among young people in foster care, including care histories such as age at entry into care, duration of time in care or number of placements (Tarren-Sweeney, 2008; Luke et al., 2014), or pre-care experiences such as maltreatment (Gilbert et al., 2009; Jaffee, 2017; Mills et al., 2013).

Future research should aim to take account of such factors, as well as accounting for even more fine-grained aspects of relationship quality with adults, including the perceived quality of birth parent or foster parent support specifically, and relationships with other adults such as mentors and wider relatives, all of which have

been found to be related to more positive outcomes (Duke, Farruggia & Germo, 2017; Gilligan 1997; Strolin-Goltzman, Woodhouse, Suter & Werrbach, 2016; Schofield & Beek, 2009). This would help to identify if peer relationship factors are still important over and above these variables. Measuring broader aspects of peer relationships such as peer status using sociometric nominations was also beyond the scope of this study, but inclusion of peer nominations would enable a more finely grained assessment of peer relationships and how they relate to mental health and well-being. Loneliness, for example, is strongly related to measures of peer status within the wider peer group, with children who are rejected being particularly vulnerable during early adolescence and middle childhood (Boivin & Hymel, 1997; Crick & Ladd, 1993; Parkhurst & Asher, 1992). Future research should include such measures, which will also help to overcome the potential issues of shared method variance and response bias in this study that relies on self-report measures containing many questions of a sensitive nature. Furthermore, a multi-informant and multi-method approach, including parents and peers would move beyond the teacher and self-report used in this study, and be even more robust in detecting mental health problems (Goodman, Ford, Simmons, Gatward & Meltzer, 2000; Johnson, Hollis, Marlow, Simms & Wolke, 2014).

The role that social activities play in promoting relationships also warrants further investigation, particularly the importance of distinguishing between time spent with peers compared to adults, and structured compared to less-structured activities. Future research should include focus groups with children in foster care to further explore the types of social activity that are important and regularly engaged with, to refine the measures of social activities that were developed for this study. Moreover, as young people's social worlds become ever more complex with the rise of social media

and other online social forums, these contexts for social interaction need further exploration, particularly during important transition phases (Sen, 2016).

### **Implications for practice**

This study indicates that approaches to addressing mental health problems and promoting well-being for children in foster care need to attend to peer relationships, including both loneliness at school and relationship quality with close friends, building on previous research that identified the importance of peer relationships for youth in foster care (e.g. Farineau et al., 2013). Children in care have reported that they are often left to navigate their own path through the complexities of peer relationships (Emond, 2014) and this needs to change. Schools have the potential to play an important role in supporting more resilient outcomes, through whole school approaches that promote social and emotional learning, problem solving and self-efficacy, and relationships (e.g. House of Commons Education Committee, 2016; McLaughlin & Clarke, 2010; Weare, 2015). However, given the interactions between self-efficacy and loneliness and close friendships, particularly in the case of predicting changes in mental health problems, it is important that individual self-efficacy and the quality of peer relationships are considered together, which may require a combination of targeted interventions. The identification of participation in social activities as a key antecedent to relationship quality emphasises that it must be something that all practitioners plan to support with young people, including making foster carers aware of children's existing interests when first in placement (Gibson & Edwards, 2015) and reinforcing the importance of the activities that foster carers undertake at home with their child (Daly & Gilligan, 2005). Supporting informal peer contexts to be more positive also needs consideration, with placement and school stability likely to be important factors (Anderton, 2009;

Price & Brew, 1998; Ridge & Millar, 2000) as well as challenging the barriers to engagement such as safe-guarding and placement moves that have been documented in previous research (Gibson & Edwards, 2015; Hollingworth, 2012; Murray, 2013; Quarmby, 2014).

## Supplementary Information

### Control Variables

Sense of school achievement and engagement and empathy were included in the T1 structural equation model with self-esteem and self-efficacy, so that we could estimate their associations over and above these social and motivational aspects of self-concept. Sense of school achievement and engagement was significantly predicted by both adult support,  $\beta = 0.44$ ,  $p < .001$  and positive best friendship quality,  $\beta = 0.24$ ,  $p < .01$ , but did not predict either SDQ Total Difficulties or well-being. Higher adult support predicted higher empathy,  $\beta = 0.34$ ,  $p < .001$ , and higher empathy predicted increased well-being,  $\beta = 0.29$ ,  $p < .00$ , but not SDQ Total Difficulties scores. Neither of these variables predicted change over time in SDQ Total Difficulties or well-being, controlling for age and gender.

### Teacher Report Scales

There was a robust concordance between the pupil self-report and teacher report SDQ total difficulties, externalising (hyperactivity and conduct problems), internalising (peer problems and emotional symptoms) and the five subscales. This was stable across time points, with higher correlations for some scales at Time 2. This may be a reflection of the fact that many children remained in the same school across time points and may have become more familiar to key staff members during that time.

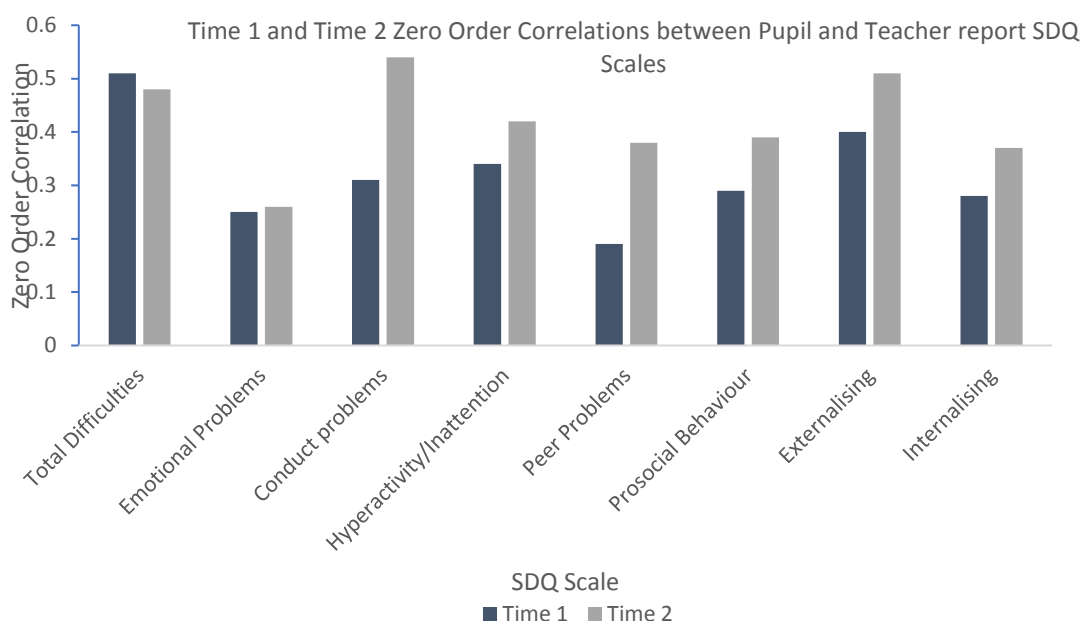


Figure S3.1

*Time 1 and Time 2 Zero Order Correlations Between Pupil and Teacher Reported SDQ Scales*

The Mulberry Bush Emotional and Social Development Scale was developed by Jasmine Williamson and Robin Banerjee at the University of Sussex in collaboration with colleagues at the Mulberry Bush School, which works with vulnerable and severely traumatised primary aged children and their families from England and Wales. It comprises three subscales: Social Regulation, Emotional Competence and Response to Adults. The tool was developed to provide a sensitive screening tool for mental health problems and was used for piloting purposes in this study to test it with a sample of children in foster care. It shows very good concordance with the Teacher SDQ scales, particularly the Total Difficulties and the Conduct Problems and Hyperactivity/Inattention subscales.

Table S 3.1

*Time 1 Zero order correlations between teacher reported SDQ scales and Mulberry Bush scales*

	MB Total Score	MB Social Regulation	MB Emotional Competence	MB Response to adults
1. Teacher SDQ Total Difficulties	-.73***	-.77***	-.64***	-.34**
2. Teacher SDQ Emotional Symptoms	-.41***	-.42***	-.38***	-.15
3. Teacher SDQ Conduct Problems	-.66***	-.74***	-.51***	-.38***
4. Teacher SDQ Hyperactivity/Inattention	-.56***	-.60***	-.45***	-.32**
5. Teacher SDQ Peer Relationship Problems	-.53***	-.50***	-.57***	-.16
6. Teacher SDQ Prosocial Behaviour	.58***	.53***	.52***	.44***
7. Teacher SDQ Externalising	-.66***	-.73***	-.52***	-.38***
8. Teacher SDQ Internalising	-.59***	-.58***	-.58***	-.20

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ 

### Significant Longitudinal Predictors and Moderation by Age and Gender

In addition to testing the predictive value of Time 1 social activities, relationships and self-concept as antecedents of change over time in well-being and mental health problems, we also tested Time 1 relationships and social activities as antecedents of change over time in our two key psychological variables of self-esteem and self-efficacy, and social activities as antecedents of change over time in relationships: loneliness, negative and positive best friendship and adult support. Partial correlations were computed between Time 1 predictor variables and Time 2 outcomes, controlling for age, gender and the autoregressive effects of the outcome variable being tested. The only significant longitudinal predictor was activities with friends which was a significant overall negative longitudinal predictor of negative best friendship over time.

In addition to examining whether and to what extent different levels of relationship support would moderate the longitudinal relationships between T1 self-esteem and self-efficacy and T2 well-being and SDQ scores, reported in the main results

section, we examined whether gender and age group moderated longitudinal relationships. Moderation was tested between 1) T1 activities, relationships, and self-esteem and self-efficacy, and T2 well-being and SDQ scores, 2) between T1 activities and relationships and T2 self-esteem and self-efficacy, and 3) between T1 activities and T2 relationships. Hierarchical regression analyses were carried out to test these moderation effects. In the first step the autoregressive effect of the dependent variable at T1 and either age or gender (whichever was not being tested as the moderator) were entered as covariates. Then, in step 2 we entered either age or gender (as the moderator), and the predictor variable. Finally, in step 3, we entered an interaction term for the variables entered in the previous step. The results of the significant moderations by age group are shown in Table S3.2 and by gender in Table S3.3 (all *ps* for interaction terms > .10).



Table S3.2

*Significant moderations by age group (ps < .10)*

Time 2 SDQ Total Difficulties on T1 Activities with friends			Time 2 Self Efficacy on T1 Adult Support			Time 2 Negative Best Friendship on T1 Activities with Friends		
<b>Block1</b>	$\Delta R^2$	.38***	<b>Block1</b>	$\Delta R^2$	.33***	<b>Block1</b>	$\Delta R^2$	.13
Gender	$\beta$	.14	Gender	$\beta$	-.01	Gender	$\beta$	.16
Time 1 SDQ Total Difficulties	$\beta$	.61***	Time 1 Self Efficacy	$\beta$	.58***	Time 1 Negative Best Friendship	$\beta$	.34**
<b>Block 2</b>	$\Delta R^2$	.01	<b>Block 2</b>	$\Delta R^2$	.01	<b>Block 2</b>	$\Delta R^2$	.06+
Age Group	$\beta$	-.10	Age Group	$\beta$	-.07	Age Group	$\beta$	.14
Activities with friends	$\beta$	-.01	Adult Support	$\beta$	.01	Activities with friends	$\beta$	-.24*
<b>Block 3</b>	$\Delta R^2$	.03+	<b>Block 3</b>	$\Delta R^2$	.03+	<b>Block 3</b>	$\Delta R^2$	.04+
Age group x Activities with friends	$\beta$	.60+	Age group x Adult Support	$\beta$	-1.60+	Age group x Activities with friends	$\beta$	-.69+

+  $p < .10$ , \* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ 

The PROCESS macro (Hayes 2012) was used to evaluate the conditional effects for each of these interactions. There were three marginally significant ( $ps < .10$ ) interactions with age group. First, age group moderated the relationship between T2 SDQ total difficulties and T1 Activities with friends. Although the interaction was significant, the conditional effects were not, but indicate a pattern that for the youngest children higher activities with friends predicted reduced SDQ scores ( $B = -.26$  (.17),  $p = .13$ ), while for the oldest children higher activities were associated with increased SDQ scores ( $B = .24$  (.18),  $p = .17$ ). Second, age group moderated the relationship between T1 levels of adult support and T2 self-efficacy. Again, the conditional effects were non-significant, but indicate a pattern where for the youngest children higher adult support is associated with later increased self-efficacy ( $B = .35$  (.21),  $p = .10$ , but for the oldest

children higher adult support is associated with later decreased self-efficacy ( $B = -.20$  (.16),  $p = .20$ ). Finally, age group moderated the association between T1 levels of activities with friends and T2 levels of negative best friendship qualities. For children in the middle age group ( $B = -.58$  (.25),  $p = .02$ ) and oldest age group ( $B = -1.13$  (.38),  $p = .004$ ), activities with friends and later levels of negative best friendship were significantly negatively related, suggesting a protective effect of social activities with friends on the more conflictual aspects of friendship as age increases.

Table S3.3  
*Significant moderations by gender (ps < .10)*

Time 2 Well-being on T1 Negative Best Friendship			Time 2 Self Efficacy on T1 General Social Activities			Time 2 Negative Best Friendship on T1 Activities with Friends		
<b>Block1</b>	$\Delta R^2$	.30***	<b>Block1</b>	$\Delta R^2$	.34***	<b>Block1</b>	$\Delta R^2$	.11*
Age group	$\beta$	-.02	Age group	$\beta$	-.07	Age group	$\beta$	.06
Time 1 Well-being	$\beta$	.54***	Time 1 Self Efficacy	$\beta$	.56***	Time 1 Negative Best Friendship	$\beta$	.31**
<b>Block 2</b>	$\Delta R^2$	.01	<b>Block 2</b>	$\Delta R^2$	.03	<b>Block 2</b>	$\Delta R^2$	.09*
Gender	$\beta$	-.00	Gender	$\beta$	-.02	Gender	$\beta$	.18+
Negative Best Friendship	$\beta$	-.11	General Social Activities	$\beta$	.18+	Activities with friends	$\beta$	-.24*
<b>Block 3</b>	$\Delta R^2$	.05*	<b>Block 3</b>	$\Delta R^2$	.04*	<b>Block 3</b>	$\Delta R^2$	.03+
Gender x Negative Best Friendship	$\beta$	-.68*	Gender x General Social Activities	$\beta$	.83*	Gender x Activities with friends	$\beta$	.34+

+  $p < .10$ , \* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

There were two significant ( $ps \leq .05$ ) and one marginally significant ( $p < .10$ ) interaction with gender. First, gender moderated the relationship between T1 negative best

friendship quality and T2 well-being. The conditional effects indicate that the association was non-significant for females, but significantly negatively associated for males ( $B = -.47 (.17)$ ,  $p = .009$ ). Friendships higher in negative qualities for males therefore significantly predicted decreased later well-being. Second, gender moderated the relationship between T1 participation in general social activities and T2 self-efficacy. The conditional effects indicate that the association was non-significant for females, but significantly positively associated for males ( $B = 1.47 (.49)$ ,  $p = .003$ ). Higher participation by males therefore significantly predicted increased later levels of self-efficacy. Finally, gender moderated the association between T1 social activities with friends and T2 negative best friendship. The conditional effects indicate that the association was non-significant for males, but significantly negatively associated for females ( $B = -.93 (.33)$ ,  $p = .007$ ). High levels of informal social activities with friends predicted decreased levels of later negative best friendship in females, but not males.

## **General Discussion**

The three papers in this thesis focus on the transition period from primary to secondary school for CLA and a comparison sample of children not in care. They all focus on situating the understanding of more resilient outcomes, both educationally and in terms of psychological adjustment, in the context of supportive environments and relationships within them. This general discussion will give a summary of the overall findings from the three papers in relation to the general aims of the thesis, and consider their theoretical and practical implications. The final section reflects on the limitations of the current research and directions for future work.

### **Summary of findings**

#### **Situating our Understanding in Current Practice across Transition**

Our first aim was to examine current provision for CLA across the transition years. We investigated this in Paper 1 by undertaking a survey of Virtual Schools with a focus on the services they provided for CLA, carers and schools. Although the remit of Virtual Schools is to raise educational attainment, this paper established that Virtual Schools supported many broader psychological factors that influence educational outcomes such as mental health and well-being, attachment, peer and family relationships, social and emotional understanding and behaviour. Virtual Schools supported resilient outcomes by working at different levels, both individually with children, as well as at a microsystemic level with carers, schools and peers, and at mesosystemic and exosystemic levels. Beyond enhancing educational opportunities and transition, which were the strongest themes, supporting relationships and well-being were at the heart of many services and training. There was a noticeable focus on deepening the understanding of attachment and trauma for schools and foster carers, with the fostering of supportive environments around the child through awareness

raising, training and whole school initiatives such as Attachment Aware schools. This paper helped to frame the following two papers in a number of ways. Firstly, it emphasised that while schools have often been a neglected context for the promotion of well-being, with the right support they have the potential to support resilient outcomes. Secondly, focusing on social activities and relationship quality across different microsystems seen as potentially fruitful in terms of understanding resilience in Papers 2 and 3. Finally, although there was some evidence that Virtual Schools were fostering relationships and supporting activities within the peer context, it was not a strong focus area, and as such was perhaps one of the microsystems around CLA that was being currently overlooked in terms of educational outcomes and psychological adjustment.

### **The Role of the Peer Context**

Building on the identified lack of focus on the peer context in Paper 1, the second aim that was explored in Papers 2 and 3 was to gain a better understanding of how relationship quality with peers was associated with mental health problems and well-being in early adolescents, over and above adult support. The studies also tested to what extent concurrent associations were mediated by aspects of self-concept, particularly self-efficacy and self-esteem. We found a number of distinct pathways in Paper 2 from different aspects of peer relationships, supporting the contention that it was important to build a fine-grained picture. Classmate support, positive best friendship quality and loneliness showed mediated associations, via self-esteem and self-efficacy, with well-being and SDQ total difficulties, while there were also direct associations as well, most notably from classmate support and positive best friendship to well-being, and loneliness and negative best friendship quality to SDQ total difficulties. In Paper 3, loneliness was again a significant predictor of lower well-being, but positive best friendship quality was not a predictor of higher well-being for our

CLA sample. As in Paper 2, it was the negative peer group factors – loneliness and negative best friendship quality which had associations with higher mental health problems, both directly and indirectly via lowered self-esteem. In Paper 2, we were unable to test longitudinal relationships between peer relationship quality and mental health problems and well-being, but we did find distinct pathways to self-esteem and self-efficacy, with higher loneliness predicting reducing self-esteem, and higher positive best friendship predicting increasing self-efficacy. Since both self-esteem and self-efficacy in turn predicted increasing well-being and decreasing mental health problems, it points to the possibility of longitudinal mediated relationships. In Paper 3, none of the peer relationship measures significantly predicted changes in mental health or well-being across the whole sample, but our supplementary analyses did indicate that higher levels of negative best friendship quality in male CLA predicted decreasing well-being. Moreover, the peer context moderated the associations between self-efficacy and well-being and mental health problems, as discussed below.

### **Social Activities with Peers and Family**

A third aim was to identify whether participation in social activities with peers and family was a key antecedent to relationship quality, self-concept and psychological adjustment in early adolescence. In paper 2, we identified many concurrent associations from both activities with friends and general social activities to higher well-being and lower mental health problems, mediated via relationship quality and self-esteem and self-efficacy. In paper 3, with CLA, there was only one marginally significant mediated pathway from general social activities to well-being via adult support and self-efficacy. However, participation in general social activities also had positive associations with positive best friendship quality, and activities with friends predicted lower loneliness. In Paper 2, our longitudinal analyses indicated that it was only participation in informal

activities with friends that were a significant antecedent to changes in relationship quality, predicting both increasing sense of parent support and reducing loneliness. In paper 3, neither of our social activity variables predicted significant changes in well-being or mental health problems for CLA. However, our supplementary analyses did identify that higher levels of participation in activities with friends predicted reductions in negative best friendship qualities, and that participation in more general social activities predicted increasing self-efficacy for male but not female CLA.

### **Longitudinal Predictors of Change in Mental Health and Well-being**

Our final aim was to determine which factors predicted change over time in mental health problems and well-being, in both our sample of children in foster care and the comparison sample. In Paper 2, the finding that there were bidirectional effects between SDQ total difficulties and both self-efficacy and self-esteem, but only effects in the expected direction of our model for well-being, emphasised that boosting well-being is not the same as addressing mental health problems. This was supported in Paper 3 with our sample of CLA, where there were again distinctive predictive patterns for well-being compared to SDQ total difficulties, as well as different patterns of moderation by the peer context. Self-efficacy was the only overall predictor of increasing wellbeing, but this relationship was also moderated by positive best friendship quality; when both were high, they interacted to further enhance later well-being. For SDQ total difficulties, however, there were no overall significant predictors of change, but again high self-efficacy and high positive best friendship interacted to predict *reduced* mental health problems. Furthermore, there were marginally significant interactions between self-efficacy and loneliness and negative best friendship quality which appear to be especially important to consider in the context of reducing mental health problems.



## **Theoretical Implications**

### **Distinction between Well-being and Mental Health Problems**

Our findings support the fact that there are distinct pathways to wellbeing and mental health problems for young adolescents across these transition years, both for CLA and those not in care (Patalay & Fitzsimons, 2016). This supports the theoretical stance that although well-being is inversely related to mental health problems, it is conceptually distinct: the absence of mental health problems cannot simply be equated to key facets of well-being such as positive affect, life satisfaction, happiness, self-acceptance and sense of purpose, and so the two should be considered separately (Keyes, 2002; Keyes, Dhingra & Simoes, 2010; Suldo & Huebner, 2006; Weich et al., 2011). In both Papers 2 and 3 for example, negative best friendship and loneliness had direct effects on mental health problems but not wellbeing, supporting previous research that has found negative friendship quality affects mental health (La Greca & Harrison, 2005) and the strong association between loneliness and mental health problems (Heinrich & Gullone, 2006; Hawkley & Cacioppo, 2010) particularly when the loneliness is persistent and enduring (Harris, Qualter & Robinson, 2013; Qualter, Brown, Munn & Rotenberg, 2010; Qualter et al., 2013). Distinct longitudinal relationships were also found for mental health problems and well-being in both papers. Of note is the fact that in Paper 2 there were bidirectional effects between self-efficacy and self-esteem and SDQ total difficulties, but only effects in the expected direction for well-being. These findings appear to support a transactional model, in which mental health problems and self-concept variables reciprocally reinforce one another, resulting in a vicious cycle. The fact that there was not a corresponding positive cycle with wellbeing suggests that boosting wellbeing may not buffer against the effect of mental

health problems on these self-concept variables and that rather the mental health problems themselves need to be addressed.

### **Cascading Models of Change in Psychological Adjustment**

Developmental cascades have been defined as ‘the cumulative consequences for development of the many interactions and transactions occurring in developing systems that result in spreading effects across different levels, across domains at the same level, and across different systems of generations’ (Masten & Cicchetti, 2010, p.491).

Theories of developmental cascades therefore fit with an ecological systems framework that places development within the interactions between multiple domains, including the individual’s own characteristics and how they interact with their families, peers, schools and communities (Bronfenbrenner, 1979, 1988). In cascading models, difficulties in one domain, such as mental health, are hypothesised as undermining other domains, such as friendships or academic achievement, which in turn may exacerbate mental health. To test for cascading processes, it is therefore optimal to have three or more time points and to measure three or more domains (Cole & Maxwell, 2003). Although we were unable to test for cascading effects, some of our findings indicate that they may be present. In Paper 2, for example, where we tested cross-lagged associations controlling for autoregressive effects, there were bidirectional effects connecting self-esteem and self-efficacy with SDQ total difficulties, which in turn predicted a decrease in school sense of achievement and identification. This is suggestive of cascading effects similar to those found previously between externalising and internalising symptoms and academic competence (Masten et al., 2005), which some researchers argue are likely to be more noticeable across periods of rapid development such as puberty or during school transitions (Moilanen, Shaw & Maxwell, 2010). These findings support the importance

of including aspects of self-concept into cascading models for early adolescents, including CLA, since self-efficacy in Paper 3 was the key longitudinal predictor of change in well-being and in mental health problems when moderated by peer relationship qualities. Indeed, one recent study with early adolescents not in care has found that emotional self-efficacy, which is an individual's beliefs about their ability to effectively manage emotions, plays a role in cascading effects between conduct problems and academic attainment (Wigelsworth, Qualter & Humphrey, 2017).

### **The Role of Peers and Self-Efficacy**

Self-perceptions, such as self-efficacy, alongside positive relationships with others have long been conceptualised as resources that support positive adjustment in adolescents (e.g. Bandura 1997; Bandura, Pastorelli, Barbaranelli & Caprara, 1999; Bandura, Caprara, Barbaranelli, Gerbino & Pastorelli, 2003). The importance of peer relationships for fostering self-efficacy is well-established in reviews of the literature (see Usher & Pajares, 2008), and Bandura (1997) contended that peer models are likely to exert greater influence over self-efficacy than adult models as adolescence progresses. However, while there has been empirical support for the role of self-efficacy in mediating the relationship between social support from parents and friends and psychosocial well-being (Vieno, Santinello, Pastore & Perkins, 2007), the main finding across both Papers 2 and 3, where more detailed measures of peer relationships have been used, is not only the importance of self-efficacy but the key role that positive best friendship quality appears to play in enhancing it in both CLA and non-CLA populations, although in slightly different ways.

These longitudinal findings support models of resilience that place importance on individual factors and interpersonal relationships and the interactive processes between them, rather than viewing resilience in terms of fixed characteristics (e.g.

Masten, 2009; Legault, Anawati & Flynn, 2006; Schofield & Beek, 2005). They also highlight that close supportive friendships may be the most crucial interpersonal relationship at this age. This may be expected given that friendships become more intimate during adolescence and increase in importance as young people seek increasing support from peers rather than family (Buhrmester, 1990). The reciprocity – mutual support and give and take – that forms the deep structure of friendship also makes it qualitatively different to other peer relationships (Hartup & Stevens, 1997). As such it may provide the most supportive relationship for fostering self-efficacy given that this aspect of our self-concept develops not only from our own mastery experiences but also from the vicarious experiences of observing others, social modelling, and verbal and social persuasions, including feedback and encouragement (Bandura, 1986, 1997).

In fact, it may be the very context of the friendship itself that provides a microcosm for the development of self-efficacy. For example, ‘friendship self-efficacy’ in adolescence - which is a measure of our confidence in the abilities we have to resolve conflicts with a friend, manage emotions, and engage and communicate with them – has been found to be a protective factor against the negative effects of social victimisation, and is associated with lower internalising and externalising scores (Fitzpatrick & Bussey, 2014). In a sense then, the self-efficacy developed within the friendship itself may contribute to a more generalised self-efficacy to deal with wider issues in life. Indeed, the fact that higher self-efficacy in turn predicted lower loneliness in Paper 2, does suggest that self-efficacy not only supports positive psychological adjustment but may also facilitate proactive strategies that help address difficulties in the social context that contribute to loneliness. Although our studies have used a measure of generalised self-efficacy, considering different domains of self-efficacy, including friendship self-efficacy, as well as affective and interpersonal-social self-efficacy beliefs (Caprara,

Steca, Gerbino, Paciello & Vecchio, 2006), may help to move us to a clearer understanding of how relationship qualities are associated with self-efficacy.

However, it is important not to overlook the indications that negative aspects of peer relationships continue to play a role in the longitudinal relationship between self-efficacy and mental health problems in CLA. The patterns of interaction indicated are more complex, particularly the trend of increasing SDQ scores when both self-efficacy is high and loneliness or negative best friendship quality is high. One theoretical explanation is that because comparison with peers is identified as a strong predictor of self-efficacy (Macek & Jezek, 2007), children with higher self-efficacy may be particularly attuned to their relationships within the peer group, and potentially suffer more in terms of mental health in contexts where loneliness, jealousy, conflict and antagonism are high, even though self-efficacy alone is associated with better mental health (e.g. Caprara et al., 2006; Parto & Besharat, 2011). However, we cannot dismiss the fact that some CLA may be exhibiting what we term 'defensive self-efficacy', in a similar vein to the well-established concept of defensive self-esteem (Jordan, Spencer, Zanna, Hosino-Browne & Correll, 2003). This is where self-concept is reported as high, but is in fact fragile and vulnerable to threat due to an underlying low self-concept, leading to defensive self-promotion which has also been associated with aggression (Baumeister, Smart & Boden, 1996). This may be a particularly toxic combination within peer contexts where interactions are negative.

### **The Context of Social Activities**

Taking part in leisure, cultural and everyday self-directed activities with families and friends showed positive associations with relationship quality. From an Ecological Systems viewpoint, this can be seen to bring benefits beyond the microsystems of a

young person's life. At a mesosystemic level, participation can provide links between microsystems, for example the family and a wider group, club or interest or mentor. This in effect broadens social networks (McMahon & Curtin, 2012) and can build cultural and social capital (Gibson & Edwards, 2015). Even unstructured activities with peers may have exosystemic effects, bringing the young person into settings that do not directly involve them but may influence them, such as the network of families of their friends. For both CLA and non-CLA, activities with friends do have positive longitudinal associations with peer relationship quality, such as reducing loneliness in Paper 2 and reducing negative best friendship quality in Paper 3 – both aspects of relationships that we have identified as important for mental health problems. What is intriguing, however, is the less expected associations with adult relationships. In Paper 2, higher activities with friends, rather than higher general social activities, predicted increased later sense of parental support, while in Paper 3 we found no longitudinal association with adult support, but concurrently a negative relationship, higher activities with friends being associated with lower sense of adult support.

While much research with parents of early adolescents has focused on how parental involvement supports continued participation in more structured activities (e.g. Persson, Kerr & Stattin, 2007), these findings highlight a need to consider in more detail the mesosystemic relationships between the everyday peer and adult social contexts that may support more resilient outcomes. During the period of early adolescence, parents and carers still play a very active role in supporting informal activities with peers, and the key to different associations may lay in how they are supported. Mounts (2004), drawing on Ladd & LeSieur's (1995) conceptual framework of parental management of adolescent peer relationships describes the important roles that parents can play: they act as *mediators* of peer relationships, guiding and encouraging certain relationships and

not others; *supervisors*, directly intervening and monitoring relationships; *consultants*, giving advice on how to manage relationships with peers such as friendship difficulties and conflicts; and finally they also exert exosystemic influence, such as selecting the neighbourhood to live in or school to apply for – what is termed a *designer* role.

Certainly, for foster carers, taking on all these roles in the same way as a birth parent would be challenging, given the disruptions to networks, friendships and environments that are discussed elsewhere, but understanding how this impacts on parenting styles and subsequent relationships is important. Mounts (2004) for example found that higher levels of consulting and mediating were related to higher levels of positive friendship quality and that higher levels of autonomy granting were related to lower levels of friend conflict and delinquent activity. This suggests that there may be a fine line between appropriate levels of supervision and over-involvement, with too much involvement having less positive effects. Perhaps where young people are given more freedom to spend time with friends, this promotes a more positive sense of support from parents as a very result of being given that autonomy. This idea receives further weight from studies that have found that too much control of freedom is related to negative feelings about being over-controlled and in turn, lower self-esteem and depression (Barber, 1996; Kerr & Stattin, 2000). Perhaps, if children in foster care are spending less time with friends due to additional safeguarding, placement instability or other barriers due to their care status, then this may account for the connection of lower time spent with friends to lower sense of support from adults.

## **Practical Implications**

The practical implications of this thesis extend across foster family, school, Virtual School and broader social contexts, such as those in which early adolescents can participate in social and leisure activities. Our findings in Papers 2 and 3 give support to the importance of the examples of practice that we found in Paper 1, where Virtual School provision went beyond a narrow focus on educational attainment to supporting factors including relationships and well-being. However, our findings in Papers 2 and 3 emphasise that a greater focus on social activities, including extra-curricular activities, could further enhance practice for Virtual Schools, schools and foster carers. The identification of participation in social activities as a key antecedent to relationship quality with adults and peers emphasises that it must be something that all practitioners plan to support with young people, including making foster carers aware of CLA's existing interests when first in placement (Gibson & Edwards, 2015) and reinforcing the value of the activities that foster carers undertake within and outside of the home with their child (Daly & Gilligan, 2005). It is ten years since the white paper *Care Matters: Time for Change* (DfES, 2007) stressed the importance of considering activities as part of care planning and stated that local authorities should ensure that their leisure activities be provided free of charge to CLA. However, the fact that huge variations in access and provision have been found so many years later (Quarmby, 2014) and that CLA still have lower participation in structured activities (Conn et al., 2014) suggests that this is still an issue that needs addressing and that the identified barriers to engagement still need challenging (Gibson & Edwards, 2015; Hollingworth, 2012; Murray, 2013; Quarmby, 2014). The PEP cycle that CLA, schools, Virtual Schools and carers are all involved with should provide an important context for consideration of social participation.



Moreover, the distinct pathways from every-day activities with friends demonstrate that there is a practical need to support informal time spent with friends, especially given the association this showed with loneliness and the fact that CLA spent significantly less time with friends than our comparison sample. Placement and school stability are likely to be significant here to support friendship formation and broaden social networks (Anderton, 2009; Price & Brew, 1998; Perry, 2006, 2013; Ridge & Millar, 2000; Rogers, 2016). Also, participation in activities outside of school can provide alternative settings for the development of peer relationships and friendships which can persist even if placements change (Gilligan, 2007; Fong et al., 2006; Mannay et al., 2015; Salmon & Rickaby, 2014). Wanting to spend time together with a friend or friends informally tends to be child-led and depends on the formation of genuine mutual liking, but during this period of early adolescence carers still play a role in facilitating social time spent with peers (Mounts, 2004; Persson, Kerr & Stattin, 2007). The identified roles that parents play as ‘consultants’ (or advice givers) and ‘mediators’ of ordinary peer relationships in early adolescence, and which in turn relates to higher levels of positive friendship and lower levels of delinquent activity (Mounts, 2004), is likely to be just as transferable to foster carers, and so these roles that they can play to enhance peer relationships should not be overlooked in foster carer training and ongoing support. This may be especially important for CLA since, as we thought may be the case, not all associations from these informal activities with friends were positive.

Furthermore, there are implications for local authority practice, particularly regarding safeguarding procedures which can contribute to children feeling different and can put up barriers to what may be considered every-day activities for children not in care (Gibson & Edwards, 2015). Sleepovers, for example, can be difficult if friends’ families need to be police checked (Ridge & Millar, 2000). Indeed, Luke et al, (2014,

p.52) emphasise that where foster care is being considered as a longer-term permanent option for a child, carers need to be given greater autonomy over decisions about participation in these types of activities. In addition, where placements are distant from school, meeting up with friends in school holidays may be prohibitive and ways of overcoming such obstacles should be planned for, because a previous friend can be an important secure attachment especially in periods of change (Mannay et al., 2015).

The identified importance of peer relationships to well-being and mental health, over and above parental and adult support, also has practical implications for all those working with CLA and other young adolescents, especially schools. Schools have the potential to support more resilient outcomes through whole school approaches that promote social and emotional learning, problem solving and self-efficacy, and relationships (e.g. McLaughlin & Clarke, 2010; Weare, 2015) and are expected to play a growing role in the recognition and support of mental health problems (DoH & NHS England, 2015; DfE 2017a), including for CLA (House of Commons Education Committee, 2016). However, a new survey identifies that more than half of primary school teachers do not feel adequately trained to support children with mental health problems, and only one in ten feel they have the necessary training to feel confident to know what action to take when a child experiences a mental health problem, even though seven out of ten felt that their schools do a good job at promoting well-being (Anna Freud National Centre for Children and Families, 2017). Combining these teacher perspectives with the findings in this thesis, it points to a need for training programmes which emphasise that although the pathways to mental health problems and positive well-being are distinct, an understanding of both can be situated within the context of supportive relationships, including classmate support, loneliness at school and relationship quality with close friends. Making teachers aware of the tools that they

can use to assess peer relationships, such as sociograms

(<http://users.sussex.ac.uk/~robinb/socio.html>) to identify those children who are

excluded and potentially at more risk of loneliness, as well as supporting their skills in conflict resolution, effective group working and creating a positive classroom climate are all ways to enhance their role in fostering positive relationships (Ming-tak, 2008).

This places approaches to addressing mental health problems in everyday good practice and can make visible what has been termed the “invisible hand” of teacher influence on peer relations and student outcomes (Bierman, 2011; Hamm, Farmer, Dadisman, Gravelle & Murray, 2011).

The importance of both peers and the school environment for the development of a high sense of self-efficacy has been previously highlighted (Bandura, 1997; Schunk & Pajares, 2002; Usher & Pajares, 2008; Vieno, Santinello, Pastore & Perkins, 2007). However, this thesis also identifies that supporting a positive peer context, especially positive close friendships, while also teaching in ways that foster self-efficacy may be especially beneficial for changes to mental health and well-being. This could have the potential to guide more focused interventions for fostering well-being and reducing mental health problems, especially in schools, where universal interventions targeting resilience factors have met with mixed results (e.g. Dray et al., 2017). In fact, one recent review of two intervention projects to support self-efficacy to promote mental health in schools in Germany found positive results when both school self-efficacy and social self-efficacy were considered. Individualisation of achievement demands, performance feedback and teacher transparency all related to school self-efficacy while social self-efficacy was supported by the fostering of a positive classroom climate and co-operative learning (Jerusalem & Hessling, 2009). As discussed above under theoretical

implications, taking a more fine-grained approach to consider different domains of self-efficacy may be most effective for classroom practice.

### **Limitations and Directions for Future research**

Although the empirical work in this thesis has broadened our understanding of the support currently available to CLA as they transition from primary to secondary school, and the factors that contribute towards changes in mental health and well-being over time, there are methodological and measurement limitations in the work, many of which signal directions for future research.

In our survey of current Virtual School provision in Paper 1, the decision to use an online survey enabled us to gain a breadth that we could not have obtained with more in-depth semi-structured interviews, but the response rate that we obtained was lower than the average response rate to organisational surveys (Baruch & Holtom, 2008) and low response rates can affect the credibility of a survey among stakeholders (Rogelberg & Stanton, 2007). Although one meta-analysis of internet-based surveys identified that response representativeness was more important than response rate *per se* (e.g. Cook, Heath & Thompson, 2000), and our sample showed a good range in terms of geographical location, size and scope, we cannot be certain that the provision identified from this sample is representative of all Virtual School provision, since in general higher response rates give a higher probability that the sample is representative (Baruch & Holtom, 2008). Indeed, it is possible that some Virtual School Heads chose not to respond because they felt that their provision was limited or not exemplary of good practice, or that others were unable to do so due to more limited staff or time resources. Thus, the voices of certain VSHs may not have been captured, especially in terms of the

barriers and facilitators that some may be experiencing to service delivery across the transition years.

We used mixed methods in this survey, with a primary focus on analysing the qualitative responses, but despite this being a strength to our approach it has limitations. Although most respondents used the check boxes to identify multiple foci of service provision, rated their services for CLA, carers and schools, and quite detailed text responses, the limitation of this concurrent design is that it precludes detailed follow up where answers were interesting, confusing or distinct (Driscoll, Appiah-Yeboah, Salib & Rupert, 2007). The check box choices of service focus, for example, showed a strong emphasis on ‘social and emotional understanding’, but we did not have the capacity to probe further the ways in which Virtual Schools viewed the service or training as supporting this without more detailed follow-up. Similarly, the quantitative findings that ‘supporting peer relationships’ was one of the least frequently selected check boxes, that there were few services with a peer focus described, and that the Virtual Schools rated their overall service provision to carers as significantly less effective than that to CLA and schools, are issues that warrant further investigation. The benefits of using a more sequential design in future, would be to enable us to collect data in an iterative process, where data collected from a broader sample could be used to contribute to more detailed data collection in the second phase (Driscoll et al., 2007). This method of collecting broader data from a range of providers followed by semi-structured interviews with a small ‘intensive’ group has been used effectively in previous research, for example in the initial pilot of the VSH role (Berridge, Henry, Jackson & Turney, 2009).

Our approaches in Papers 2 and 3 raise related limitations and directions for future work. The strength of using a questionnaire approach with large samples allowed us to explore nomothetic relationships between the variables in our models. However,

we do recognise that these findings have raised some questions that a future idiographic approach might help to answer, particularly gaining a view ‘behind the data’ of how self-efficacy and the peer context interact, and a more holistic view of the variety of social activities that CLA engage in and feel are important to their well-being. This might also illuminate some of the reasons why higher activities with friends may be related to lower adult support and sense of school achievement and engagement, as well as the barriers to participation in such activities.

Indeed, such qualitative explorations may highlight other mediators that could or should be included in future models. There are a range of other variables that are important for mental health across early adolescence and which have all been identified as important to resilience, within various implicated human adaptive systems such as family, attachment, self-control, executive function, mastery motivation and socio-cultural systems (Masten, 2009). Measures of parental support or attachment would have been useful to include in Paper 3, but ethical considerations meant that inclusion of these types of measures was inappropriate for the CLA group. Whilst we selected measures that reflect our interest in an ecological perspective and that incorporate many of these domains associated with resilience, we have necessarily excluded other variables identified as important for resilience and psychological adjustment in early adolescence. These include self-regulation and executive function (Wang, Brinkworth, & Eccles, 2013), emotional regulation (Alink, Cicchetti, Kim & Rogosch, 2009) coping strategies (Legault et al., 2006) school connectedness (Joyce & Early, 2014), teacher support (Wang et al., 2013), peer attachment (Oldfield, Humphrey & Hebron, 2015), as well as bonds to wider sociocultural factors such as neighbourhoods and community organisations (Goswami, 2012; Ungar, Ghazinour & Richter, 2013). Even within the

measures that we did use, more nuanced measurement is possible and may be fruitful for further research, such as more refined measures of self-efficacy.

We also recognise that while the papers have emphasised the importance of not treating CLA as a homogenous group, nomothetic approaches tend to look for similarities between individuals that lead to broad conclusions, masking the heterogeneity of individual experiences. This has been increased by the fact that we were unable to obtain detailed background information for our sample, including care or maltreatment histories. While approximately 60% of children entering care have a history of maltreatment (DfE, 2016a), we cannot be certain of the percentage of CLA within our group who have experienced abuse or neglect compared to other pre-care experiences. Types of maltreatment may be differentially related to mental health (Tarren-Sweeney 2008) and some of the CLA in our sample are likely to have experienced more than one type of maltreatment which also affects adjustment (Taussig, Culhane, Garrido, Knudtson & Petrenko, 2012; Trickett, Negriff, Ji & Peckins, 2011), as do dimensions such as age of onset, chronicity and severity (English, Graham, Litrownik, Everson & Bangdiwala, 2005; Manly, Kim Rogosch & Cicchetti, 2001). Care factors including age at entry into care, time spent in care and placement stability also affect mental health outcomes (Tarren-Sweeney, 2008). Future research should therefore attempt to collect detailed histories on all participants where possible.

A further limitation of the study design in Papers 2 and 3 is that data were only collected over two time points. This meant that although the longitudinal design facilitated a better understanding of variables that predict *changes* in psychological adjustment and therefore offered an explanatory account of the associations, mediational effects across the entire models could not be tested since a minimum of three time-points is required for this analysis. Instead, the cross-lagged models in Paper

2 point to likely bidirectional relationships which require further exploration, particularly the potential for cascading effects discussed above under theoretical implications. Additionally, a larger CLA sample would permit more detailed analyses, including a cross-lagged path analysis to be carried out as well as exploration of more complex relationships across different sub-scales of the SDQ. Furthermore, if it had been possible to recruit more closely matched classmates for CLA as was the initial intention for the work reported in Paper 3, this would have enabled testing of moderation effects of CLA status, although the use of a comparison sample of the same age in mainstream schools did enable us to identify some key differences. These included significantly lower participation in activities with friends and higher SDQ Total Difficulties, as well as almost significantly lower participation in general social activities, higher loneliness and lower self-esteem.

The reliance on predominantly self-report measures in Papers 2 and 3 also brings some limitations. The breadth of questionnaires used required young adolescents to reflect on their own perceptions of their relationships, self-concept and psychological adjustment, all potentially sensitive and challenging areas of their lives, which may lead to response bias in terms of wanting to give socially desirable responses or avoid confronting challenging feelings. While teacher perspectives on mental health and well-being of CLA were also collected via questionnaires, this only provides one other informant's views on the measures of psychological adjustment that we were using, whereas a triangulated approach comprising self, teacher and parental report is optimal for capturing mental health when using the SDQ Total Difficulties scale (Goodman, Ford, Simmons, Gatward & Meltzer, 2000). Although supplementary analyses showed that concordance between teacher and self-report was quite robust for externalising problems such as hyperactivity/inattention and conduct problems, internalising aspects



of mental health such as peer problems and emotional problems showed lower concordance. This may reflect previous findings that teachers are not as effective as parents/carers for identifying these aspects of mental health (Goodman et al., 2000). However, the fact that we found no overall differences in self-reported emotional problems between CLA and our larger non-CLA sample suggests they may be under-identifying internalising problems given that these are typically still more prevalent in CLA, even though the difference is smaller than with externalising problems (e.g. Ford, Vostanis, Meltzer & Goodman, 2007). It may also reflect previous findings that the SDQ may not be as sensitive to internalising as externalising problems (Tarren-Sweeney, Hazell & Carr, 2004; Goodman et al., 2000). Public health guidance on CLA (NICE/SCIE, 2010/2013, p.25) has emphasised the importance of giving equal priority to identifying and supporting these children who may be less noticeable than children with externalising problems, so future research should not only aim to obtain SDQ data from three informants, but also consider that additional methods beyond questionnaires may be needed. The CloseUp Programme, which runs a training course for carers and supports them to record core signs and symptoms including sleeping problems, irritability and eating problems using a Wellbeing profile recording tool, may provide a useful assessment tool for less obvious manifestations of mental health difficulties (cited in Bazelgette et al., 2015, p. 84).

The inclusion of peer report measures would likewise allow broader consideration of wider peer relationships and help to establish the reciprocity of friendships. Such measures are important to include in future research given the identified importance of peer relationships to psychological adjustment in this thesis. Inclusion of sociograms (<http://users.sussex.ac.uk/~robinb/socio.html>) or social cognitive maps (Cairns, Perrin & Cairns, 1985; Cairns, Cairns, Neckerman, Gest &

Garipey, 1988) would give a clearer indication of social clusters, peer acceptance and rejection, which may show distinct pathways of their own to mental health problems and well-being (e.g. Anthonysamy & Zimmer-Gembeck, 2007). Approaches such as social cognitive mapping also show good concordance with observational studies of social interactions, which are often difficult to carry out due to resource limitations (Gest, Farmer, Cairns & Xie, 2003). Furthermore, social network analysis may be an interesting future methodology to include, since CLA's social worlds can be atypical, including the naming of fewer same aged peers, which may mean that classroom-based peer assessments fail to capture their peer networks as fully (Negriff, James & Trickett, 2015; Salzinger, Feldman, Hammer & Rosario, 1993). Moreover, social networks may be sparser for CLA due to the social network disruptions they often experience (Negriff et al., 2015), which includes losing contact with extended family, losing contact with groups and activities that are important, as well as friendships (McMahon & Curtin, 2013). Therefore, only considering one network domain (peer, biological family, foster carers) may not be enough to understand psychological adjustment in this population (Perry, 2013).

To summarise, future longitudinal work should aim to recruit a larger CLA and matched classmate sample and track them over at least three, and preferably more, time points to test for cascading effects between social activities, relationship quality, self-concept and psychological adjustment, as well as for moderation by CLA status, age and gender. It should aim to take a multi-informant approach, incorporating CLA, foster carer, teacher and peer report and account for care and maltreatment histories. Finally, further research should aim to incorporate qualitative approaches to explore further the barriers and facilitators to service provision across the transition years, as well as to gain

a better understanding of CLA's experiences of everyday activities, especially with friends, and the interplay between self-efficacy and the peer context.

### **Concluding Remarks**

The research reported in this thesis has supported our view of resilience in early adolescence as a dynamic process involving complex interactions between personal qualities, such as self-efficacy and supportive interpersonal relationships, such as friendships. The significant decline in well-being and increase in some mental health problems across the transition period from primary to secondary school identifies that it is a challenging time, although many Virtual Schools are providing tailored support, raising awareness and fostering supportive relationships and contexts. Our findings show good initial support for our model that situates mental health and well-being in the context of social activities, relationship quality and individual self-concept. Furthermore, we have identified the importance of the peer context over and above adult support. Rather than being a simplistic picture, it is the very complexity of peer relationships that must be attended to, in order to obtain a more nuanced understanding of pathways to psychological adjustment. The identified importance of the combined effects of self-efficacy and a supportive peer context, especially high positive best friendship quality, on both well-being and mental health problems, provides an important platform upon which to build future research and interventions.

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## **Appendices**

### *Appendix A: Virtual School Survey Questions*

Following each free text description of a service participants were asked to complete tick box options in response to the following questions:

- What is the focus of the service? [Tick all that apply: Mental health, Behaviour Support, Social and Emotional Understanding, Educational Attainment, Attachment, Peer Relationships, Family Relationships, Placement Stability, Other]
- Who is the service or training provided for? [Tick all that apply: Looked after child, Looked after sibling groups, Looked after child and peer group, Foster carers only, Whole family, Senior Management, SENCOs/INCOs, Governors, Class Teachers, Teaching Assistants, Other]
- At what level is the service or training provided? [Tick all that apply: Individual Families, Groups of Families, Individuals, Groups, Classes, Whole School, Clusters of Schools, Across the Local Authority, Other]
- Can the service or training be tailored to the needs of individuals or families / an individual child or group of children? [Yes, No]
- Was this service or training developed in collaboration with looked-after children and/or their foster families? [Yes, No]
- Who provides this service? [Tick all that apply: Virtual School directly, Other Service Providers within the Local Authority, Service providers from another Local Authority, Private Agency]. Participants then named the professionals involved with each provision.

In the final part of the survey participants rated their agreement with three statements:

‘We provide a good level of support to looked-after children / foster families / schools



around transition' on a five-point scale from 'Strongly disagree' (1) to 'Strongly agree' (5).

Free text responses were invited in response to the questions: 'Which of your services or training do you feel are most effective at meeting the needs of looked-after children during transition?'; 'What services, training or interventions would you like to offer that you are not currently able to?'; 'What are the current obstacles that prevent you from developing or implementing the services or training that you would like to provide?'; 'What are the factors that facilitate development and implementation of training and services?'; and 'Which types of services, training or interventions would you like more information about?'

***Appendix B: Social Activities Questions***

**How often do you...**

	Everyday	Once a Week	2 to 2 times a Month	Once a month	Less than once a month
Talk to your parent/carer about what you have done during the day?	1	2	3	4	5
Help with chores, errands or other jobs around the home?	1	2	3	4	5
Do things at home together with your parents / carers i.e. watch TV, cook, play games?	1	2	3	4	5
Have a friend round to your house?	1	2	3	4	5
Go round to a friend's house?	1	2	3	4	5

**In the last three months have you done any of the following activities with friends or family?**

	Yes	No	Not Sure
Been to a friend's house for a sleepover	1	2	3
Been swimming / skating / cycling / bowling or some other group sporting activity	1	2	3
Been to the cinema / museum / zoo / football match or other local event	1	2	3
Been to the park or to a picnic	1	2	3
Been involved in any community based activities e.g. Scouts / Guides, going to church, volunteering	1	2	3

**Do you attend any clubs or extra activities i.e. Drama, dance, football, Scouts, Guides? (please circle Yes or No)**

Yes

No

**If you answered Yes, how often do you take part in clubs or extra activities?**

	Everyday	Several Times a Week	Once a Week	2-3 Times a Month	Once a Month	Less Than Once a Month
Please circle one	1	2	3	4	5	6

**Please write the names of any clubs you go to regularly in the box below e.g. football, swimming, dance, drama etc.**

--

**During the last long school holiday (Christmas, Easter or Summer) how often do you think you met up with friends?**

	Everyday	Several Times a Week	Once a Week	2-3 Times a Month	Once a Fortnight	Less Than Once a Fortnight
Please circle one	1	2	3	4	5	6

*Appendix C: The Best Friend Index (Kouwenberg, Rieffe & Banerjee, 2013)*

**Please think about your relationship with your best or closest friend when answering these questions:**

	Never	Rarely	Some times	Often	Very Often
I turn to my best friend for support with personal problems	1	2	3	4	5
My friend and I have fun together	1	2	3	4	5
I think we will stay friends forever	1	2	3	4	5
My friend and I do enjoyable things together	1	2	3	4	5
I share secrets with my best friend	1	2	3	4	5
My friend makes me feel I do nice things	1	2	3	4	5
My friend helps me with things I do not know or cannot do	1	2	3	4	5
I enjoy helping my best friend	1	2	3	4	5
My friend shows me I am good at many things	1	2	3	4	5
My friend and I argue together	1	2	3	4	5
I get fed up when my friend receives a higher grade	1	2	3	4	5
My friend and I are angry at each other	1	2	3	4	5
I am jealous towards my friend	1	2	3	4	5
My friend tries to boss me around	1	2	3	4	5
I dislike it when my friend is better than me at things	1	2	3	4	5
My friend and I bug each other	1	2	3	4	5
My friend tries to decide what we should play	1	2	3	4	5
My friend says mean things about me to others	1	2	3	4	5

***Appendix D: The Loneliness Questionnaire – Short Version (Ebesutani, Drescher, Reise, Heiden, Hight, Damon & Young, 2012)***

**Please choose the statement that shows HOW MUCH YOU FEEL something is true for you:**

	Not true at all	Some times True	Always True
EXAMPLE: I have toast for breakfast	1	2	3
I'm good at working with other pupil's in my class	1	2	3
I have nobody to talk to in class	1	2	3
It's hard for me to make friend's at school	1	2	3
I like school	1	2	3
It's hard to get pupil's in school to like me	1	2	3
I have lots of friends in my class	1	2	3
I don't have anyone to play with at school	1	2	3
I like music	1	2	3
I feel left out of things at school	1	2	3
There are no other pupils I can go to when I need help in school	1	2	3
I don't get along with other pupils in school	1	2	3
I am lonely at school	1	2	3
I am well liked by the other pupil's in my class	1	2	3
I don't have any friends in class	1	2	3

*Appendix E: Children and Adolescents Social Support Scale (CASSS; Malecki, Demaray, Elliott & Nolten, 1999) Parent and Classmate Subscales*

**Please think about the support or help that you get from your parent(s) or adult(s) you live with when answering these questions. There are no right or wrong answers.**

<b>My parent(s) or adult(s) I live with...</b>	<b>Never</b>	<b>Almost Never</b>	<b>Some of the Time</b>	<b>Most of the Time</b>	<b>Almost Always</b>	<b>Always</b>
...show they are proud of me	1	2	3	4	5	6
...understand me	1	2	3	4	5	6
...listen to me when I need to talk	1	2	3	4	5	6
...make suggestions when I don't know what to do	1	2	3	4	5	6
...give me good advice	1	2	3	4	5	6
...help me solve problems by giving me information	1	2	3	4	5	6
...tell me I did a good job when I do something well	1	2	3	4	5	6
...nicely tell me when I make mistakes	1	2	3	4	5	6
...reward me when I've done something well	1	2	3	4	5	6
...help me practice my activities	1	2	3	4	5	6
...take time to help me decide things	1	2	3	4	5	6
...get me many of the things I need	1	2	3	4	5	6

**Please think about the support or help that you get from your classmates when answering these questions. There are no right or wrong answers.**

<b>My Classmates...</b>	<b>Never</b>	<b>Almost Never</b>	<b>Some of the Time</b>	<b>Most of the Time</b>	<b>Almost Always</b>	<b>Always</b>
...treat me nicely.	1	2	3	4	5	6
...like most of my ideas and opinions.	1	2	3	4	5	6
...pay attention to me.	1	2	3	4	5	6
...give me ideas when I don't know what to do.	1	2	3	4	5	6
...give me information so I can learn new things.	1	2	3	4	5	6
...give me good advice.	1	2	3	4	5	6
...tell me I did a good job when I've done something well.	1	2	3	4	5	6
...nicely tell me when I make mistakes. .	1	2	3	4	5	6
...notice when I have worked hard.	1	2	3	4	5	6
...ask me to join activities.	1	2	3	4	5	6
...spend time doing things with me.	1	2	3	4	5	6
...help me with projects in class.	1	2	3	4	5	6

***Appendix F: Adult Support Scale***

**Please think about how you *generally* feel when answering these questions**

	Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree
There is at least one adult in my life who cares about my feelings	1	2	3	4	5
There is at least one teacher or other adult in school who I can talk to if I have a problem	1	2	3	4	5
If I got an award or did something well there is an adult I would want to tell	1	2	3	4	5
There are adults in my life who I admire and want to be like	1	2	3	4	5



*Appendix G: Adapted version of Harter's (1988) Self-Perception Profile for Adolescents*

**Please think about how true each statement is for you:**

	Not at all True	A little true	Mostly True	Very True
I am often disappointed with myself	1	2	3	4
I like the kind of person I am	1	2	3	4
I don't like the way that I am leading my life	1	2	3	4
I am happy with myself most of the time	1	2	3	4

***Appendix H: Shortened six-item form of the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995)***

**Please think about how true each statement is for you:**

	Not at all True	A little true	Mostly True	Very True
I can always manage to solve difficult problems if I try hard enough	1	2	3	4
It is easy for me to stick to my aims and accomplish my goals	1	2	3	4
I can solve most problems if I put in the necessary effort	1	2	3	4
When confronted with a problem, I can usually find several solutions	1	2	3	4
If I am in trouble I can usually think of a solution	1	2	3	4
I can usually handle whatever comes my way	1	2	3	4

***Appendix I: Sense of School Achievement and Engagement Scale***

**Please think about how you *generally* feel when answering these questions:**

	Never	Rarely	Some times	Often	Always
I feel that the things I am learning at school will be useful when I am older	1	2	3	4	5
I try to do my best work at school	1	2	3	4	5
I achieve my goals or targets at school	1	2	3	4	5

*Appendix J: Empathy Questionnaire (Pouw, Rieffe, Oosterveld, Huskens & Stockmann, 2013) Prosocial Empathy Subscale*

**If someone else is upset, what would you do, how would you feel? Please read each sentence carefully and mark to what extent it is true for you. Mark the box that fits you best. There are no right or wrong answers.**

	Not True	Some times True	Often True
When a classmate is feeling angry, I want to do something to help	1	2	3
I want everybody to feel good	1	2	3
When one of my friends is upset, I want to comfort him or her	1	2	3
When a classmate is feeling sad I want to do something to make it better	1	2	3
I enjoy giving presents to friends	1	2	3

***Appendix K: Strengths and Difficulties Questionnaire – Self Report Version***  
***(Goodman, Meltzer & Bailey, 1998)***

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best as you can even if you are not absolutely certain or the item seems daft! **Please give your answers on the basis of how things have been for you over the last 6 months.**

	Not True	Some what True	Certainly True
I try to be nice to other people. I care about their feelings.	1	2	3
I am restless. I cannot stay still for long.	1	2	3
I get a lot of headaches, stomach-aches or sickness	1	2	3
I usually share with others (food, games, pens etc)	1	2	3
I get very angry and often lose my temper	1	2	3
I am usually on my own. I generally play alone or keep to myself	1	2	3
I usually do as I am told	1	2	3
I worry a lot	1	2	3
I am helpful if someone is hurt, upset or feeling ill	1	2	3
I am constantly fidgeting or squirming	1	2	3
I have one good friend or more	1	2	3
I fight a lot. I can make other people do what I want.	1	2	3
I am often unhappy, down-hearted or tearful	1	2	3
Other people my age generally like me	1	2	3
I am easily distracted, I find it difficult to concentrate	1	2	3
I am nervous in new situations. I easily lose confidence	1	2	3
I am kind to younger children	1	2	3
I am often accused of lying or cheating	1	2	3
Other children or young people pick on me or bully me	1	2	3

I often volunteer to help others (parents, teachers, children)	1	2	3
I think before I do things	1	2	3
I take things that are not mine from home, school or elsewhere	1	2	3
I get on better with adults than with people my own age	1	2	3
I have many fears, I am easily scared	1	2	3
I finish the work I'm doing. My attention is good	1	2	3

***Appendix L: The Short Warwick-Edinburgh Mental Wellbeing Scale (Stewart-Brown et al., 2009)***

**Please choose the sentence that best describes your experience over the last 2 weeks:**

	Never	Rarely	Some times	Often	All The Time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5

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